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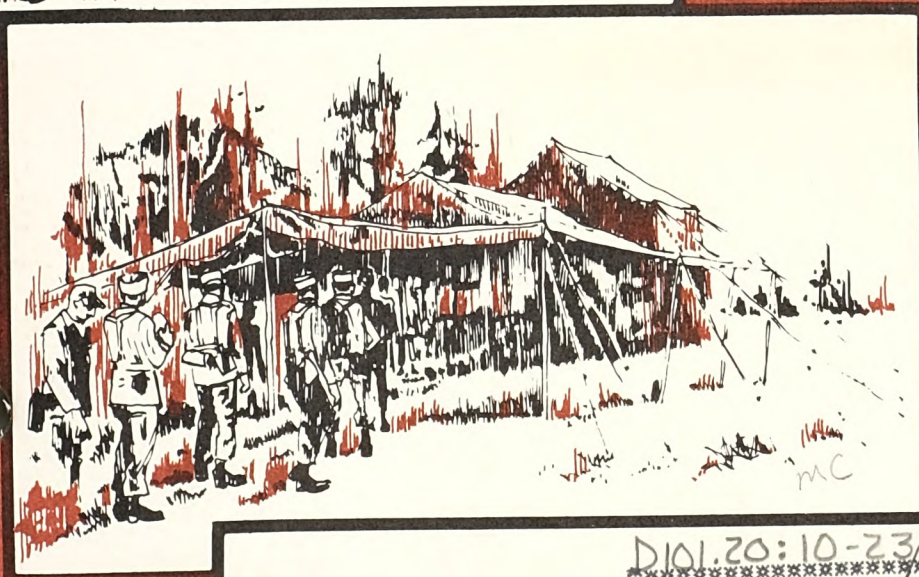
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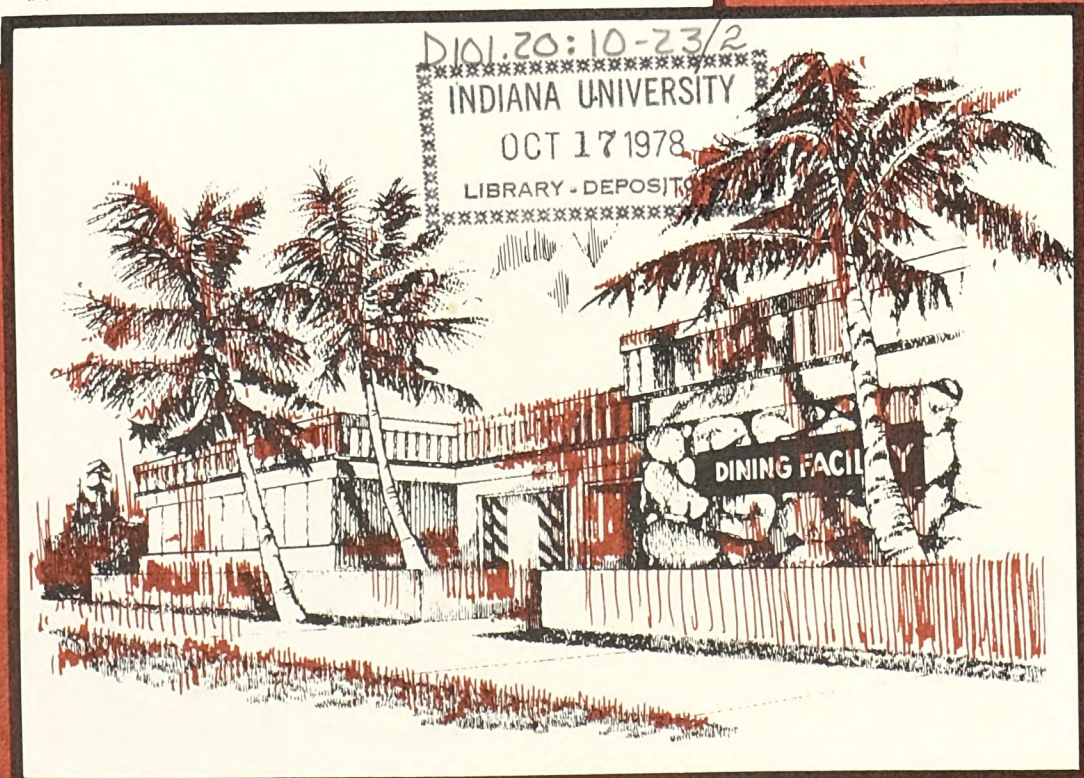
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# ARMY FOOD SERVICE OPERATIONS



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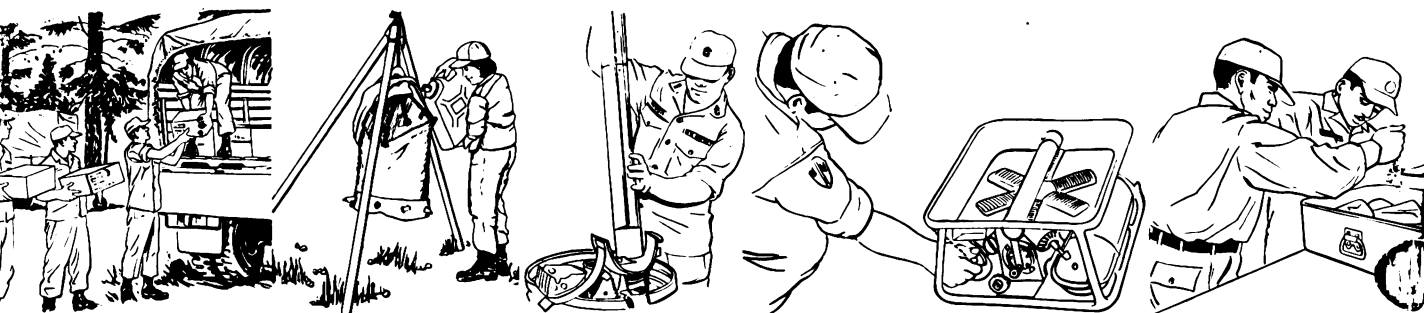
# ARMY FOOD SERVICE OPERATIONS

\*This publication supersedes FM 10-23, 15 October 1974.





*NOTE: Field operations described in this manual may pollute the soil, air, and water table where they are used. When your training program includes field operations, make sure you are aware of local restrictions. Contact the Facilities Engineers—they will know the local restrictions on activities that pollute and affect the ground water table.*





## PURPOSE AND SCOPE

This manual is written mainly for you, the food service sergeant. It covers your basic duties and responsibilities in the operation of a garrison dining facility or field kitchen. This manual is useful, also, to anyone else involved in dining facility and field kitchen operations. Some information you need to know may not be included in this FM if it has already appeared in other publications. Instead, you will be referred to the appropriate AR, FM, or TM.

Part I of this manual covers garrison operations and part II covers field operations.

The word "he" or "his" in this publication is intended to include both the masculine and feminine genders and any exception to this will be so noted.

## RECOMMENDED CHANGES

We would like to have your ideas or recommendations for improving this manual. Send us your comments on DA Form 2028 (Recommended Changes to Publications and Blank Forms) or in a letter. Be sure to identify the part of the manual to which your comments apply and give the reason for the comments. Mail them to the Commandant, US Army Quartermaster School, ATSM-TD-TL, Fort Lee, Virginia 23801.



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# PART II

## GARRISON FOOD SERVICE OPERATIONS







# CHAPTER I

## YOUR PART IN THE GARRISON FOOD SERVICE PICTURE

### THE ARMY FOOD SERVICE PROGRAM

The Army Food Service Program covers the people, processes, and resources involved in feeding the troops worldwide. Everything is included—from research and development of a food item through cooking and serving. The purpose of the program is to provide the best-tasting and most nutritious meals possible within the basic daily food allowance (BDFA). You do your part by making the most efficient use of your people, equipment, facilities, and supplies.

### YOUR MANAGEMENT TEAM

Each person involved with the operation of the dining facility must know his job and work as part of a team. You, of course, will be working closely with the food service personnel—your cooks and dining facility attendants. You may also have a clerk to help with the paperwork. On the management level, you will be working mainly with—

#### **YOUR COMMANDER (CO)—**

*directly responsible for the operation of the facility.*

#### **YOUR FOOD SERVICE OFFICER—**

*directly supervises dining facility operations and acts as liaison for the CO.*

#### **YOUR FOOD ADVISER—**

*gives help and technical advice on dining facility operations.*

Your Commander makes sure that

Enough people are assigned and trained.

The right amount of food is ordered and received.

Food is accounted for and not wasted.

Equipment and facilities are adequate.

Meal hours fit into the unit schedule.

Dress and conduct policies are set.

Your Food Service Officer makes sure that

An on-the-job training (OJT) program is carried out.

Safety and sanitation regulations are followed.

Equipment is correctly operated and maintained and a replacement plan is prepared.

Supplies and food are correctly used, conserved, and stored.

The facilities engineers maintain and repair facilities.

Headcount and serving procedures are followed.

Unit strength figures are obtained.

All dining facility forms are completed correctly.

The dining facility account is within the acceptable allowance.

The food adviser helps when needed.

Your Food Adviser gives help on

OJT and off-post training.

Menu planning.

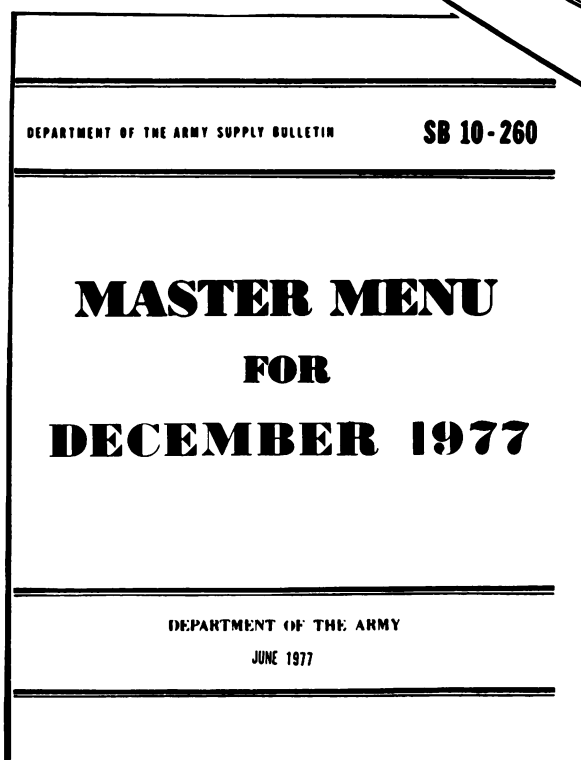
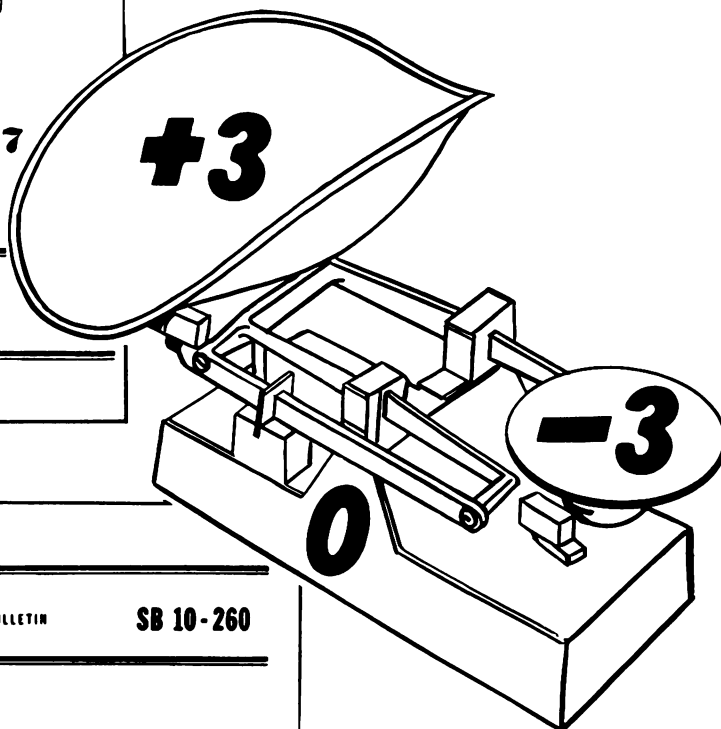
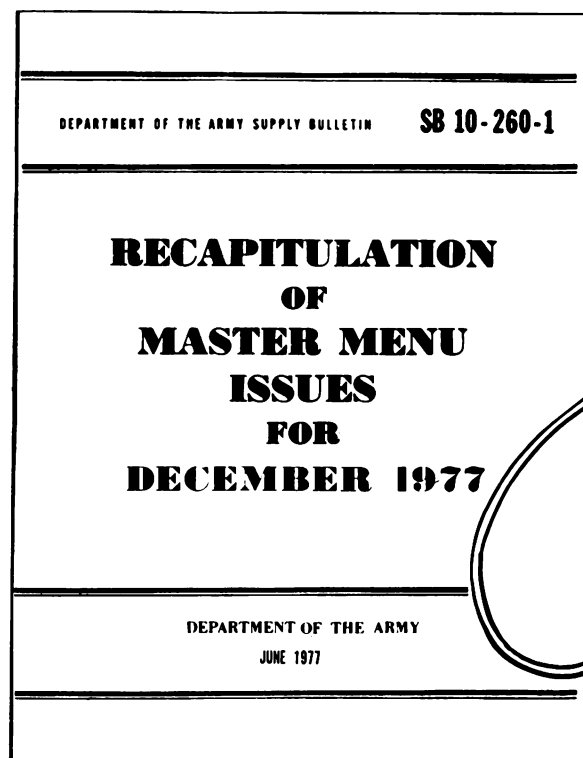
Accounting and records.

Supplies and equipment.

Field feeding.

Personnel and scheduling.

Table 1. Management duties.





## CHAPTER 2

# ADMINISTRATION AND ACCOUNTING

Dining facility administration and accounting are BIG BUSINESS. Your commander has given you and the food service officer the job of making sure they are done right. Use the right forms and keep accurate records, and you will have few problems. If you make an error, your troops may not get enough to eat. Don't be afraid to ask for help from your food service officer or food adviser when you need it. It's their job. The publications listed in the references in the back of this manual also help.

**REMEMBER—DEPEND ON ACCURACY, NOT GUESSWORK, WHEN YOU DO PAPERWORK.**

In addition to your regular dining facility personnel, you may be authorized a clerk, regardless of the size of your facility or your headcount. Some of the duties that the clerk may have include helping you to

- take inventory of supplies and equipment.
- prepare ration requests.
- prepare cooks' worksheets.
- take headcount.
- carry requisitions and reports to the Troop Issue Subsistence Activity (TISA).
- prepare cash turn-ins.

## DINING FACILITY ACCOUNTING SYSTEMS

### THE ARMY RATION CREDIT SYSTEM (ARCS)

Under ARCS, the accounting system generally used in a garrison dining facility, your facility earns a monetary allowance against which food costs are charged. The amount of your allowance depends on your headcount and on the value of the basic daily food allowance (BDFA) computed by the TISA. You keep track of your dining facility account on a dining facility account card; the TISA also keeps an account for your unit.

### THE MONETARY ALLOWANCE RATION SYSTEM (MARS)

The monetary allowance ration system (MARS) is a system under which funds are given to a dining facility for the purchase of rations. This system is used *only* by those units which are authorized by the Commanding General, US Army Troop Support Agency (TSA). As the food service sergeant working under this system, you must review the monetary status of your dining facility on a DAILY basis and develop good buying practices which allow you to buy food within your authorized expenditure limit.

**SIGNATURE HEADCOUNT SHEET**  
For use of d's (Army, AF, Navy, Air Force, Coast Guard, Marine Corps, and Space Force) and for the Office of the Deputy Chief of Staff for Logistics.

ORGANIZATION: **Co D QMS BDE**  
DATE: **6 JUL 76**  
MEAL: **LUNCH**  
PAGE: **30**

PERSONNEL ASSIGNED/ATTACHED THIS UNIT AUTHORIZED TO SUBSIST W/O REIMBURSEMENT WILL SIGN THIS SHEET.

NO.	SIGNATURE	MEAL CARD NO.	UNIT (ARMY-ONLY)
1	<i>John T. Peterson</i>	149	D-2MS
2	<i>Charles R. Miller</i>	15	D-2MS
3	<i>Tracy A. Martin</i>	10	B-2MS
4	<i>Robert P. Munn</i>	29	C-2MS

**DA Form 3351**  
(Signature Headcount Sheet)

This form is the basic accounting document for meals served to assigned and attached Active Army enlisted personnel. It is used to account for enlisted personnel authorized to subsist without reimbursement. It is kept for each meal.

NO.	SIGNATURE	MEAL CARD NO.	UNIT (ARMY-ONLY)
22	<i>EC Class 74.1</i>		A-2MS
23	<i>1st PMG</i>		C-2MS
24	<i>Bob A. Jones</i>	89	C-2MS
25	<i>Alvin G. Rogers</i>	52	A-2MS
26	<i>John C. Martin</i>	93	C-2MS
27	<i>Richard A. D. Davis</i>	22	A-2MS

**HEADCOUNT RECORD**

HEADCOUNT RECORD	UNIT OR ORGANIZATION		DATE	SERIAL NO.
	b. BREAK	c. LUNCH	d. DINNER	e. BRUNCH
1. TOTAL HEADCOUNT		203	6 JULY 76	533
2. TOTAL NUMBER OF MEALS FOR WHICH CASH (DUTY RATE) WAS RECEIVED (DD FORM 1544)		10		
2a. TOTAL NUMBER OF MEALS FOR WHICH CASH (OTHER AUTHORIZED RATE) WAS RECEIVED (DD FORM 1544)		2		
3. TOTAL NUMBER OF MEALS FOR WHICH PAYMENT WAS ACCOMPLISHED BY PD (AW PARA 3-85 AR 301)		3		
4. TOTAL NUMBER OF MEALS FURNISHED TO TRANSIENTS (DA FORM 3032)		168		
5. TOTAL NUMBER OF MEALS FURNISHED TO ACTIVE ARMY (DA FORM 3351)				
6. U.S. ARMY RESERVE				
7. ARMY NATIONAL GUARD				
8. U.S. ARMY AIRCRAFT CREW				
9. NUMBER OF U.S. MARINE CORPS RESERVE				
10. NUMBER OF U.S. NAVY RESERVE				
11. NUMBER OF OTHERS (Specify)				
12. NUMBER OF OTHERS (Specify)				
COMMON SERVICE SUBSISTING				
13. NUMBER OF U.S. NAVY ACTIVE		3		
14. NUMBER OF U.S. MARINE CORPS ACTIVE				
15. NUMBER OF U.S. AIR FORCE ACTIVE				
16. NUMBER OF OTHERS (Specify)				
17. NUMBER OF OTHERS (Specify)				
18. NUMBER OF OTHERS (Specify)				
19. HEADCOUNTER (Signature and grade)				
REMARKS				

**PREPARATION INSTRUCTIONS**

1. This is a summary of the actual and anticipated meal requirements for the unit. It is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

2. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

3. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

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9. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

10. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

11. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

12. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

13. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

14. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

15. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

16. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

17. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

18. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

19. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

20. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served. The data is used to determine the number of meals to be prepared and served.

**SUBSISTENCE RECORD FOR PAYROLL DEDUCTION**

NAME		GRADE	SOCIAL SECURITY NO.	ORGANIZATION
FOR MONTH OF	DATE SUBMITTED TO F&AO	MPO NO.	STATION SYMBOL	

DAY	MONTH	MEALS				MEAL RATES
		(S)	B	L	D	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
TOTAL MEALS						

MEAL RATES

Breakfast \_\_\_\_\_

Lunch \_\_\_\_\_

Dinner \_\_\_\_\_

NO. CONSUMED	MEAL RATE	MEAL TOTAL
Breakfast _____	_____	_____
Lunch _____	_____	_____
Dinner _____	_____	_____
Total Payroll Deduction		_____

Signature of Subsisting Member \_\_\_\_\_

**DA Form 4548-R**  
(Subsistence Record for Payroll Deduction)

Use this form to record the number of meals eaten by officers and enlisted personnel receiving a subsistence allowance or a basic allowance for subsistence during long field exercises.

**DINING FACILITY MEAL REGISTER**

For use of this form see AR 30-1, the proponent agency is the Office of the Deputy Chief of Staff for Logistics

DATE	NAME	GRADE	ORGANIZATION	DATE FROM TO	PAGE NO.
26 Sep	Robert C. McElreath	Col	Co D, OMS, 60E		70
26 Sep	Col Glen R. Miller	Col	Co A, 3rd Bn.		
26 Sep	Robert C. McElreath	Col	Co B, 3rd Bn. 2nd Inf		
27 Sep	William C. Brown	Lt	Co B, 3rd Bn.		
27 Sep	Charles C. Smith	Lt	Co B, 3rd Bn.		
27 Sep	Charles R. Jones	E-7	Co C, 3rd Bn.		
27 Sep	Charles R. Jones	E-3	Co C, 3rd Bn.		
27 Sep	Charles R. Jones	E-3	Co C, 3rd Bn.		

**DA Form 3032**  
(Dining Facility Meal Register)

This form is used by Active Army personnel who eat at, but are NOT assigned or attached to, a unit on your post. It is also used and signed by ALL other personnel authorized to eat without individual reimbursement. Each diner signs the form and indicates his branch.

DATE	NAME	GRADE	BRANCH	DATE FROM TO	PAGE NO.
26 Sep	Robert C. Brown	Lt	1st Inf, Class 75-2		30
26 Sep	Robert C. Brown	Lt	3rd Inf, Class 75-2		35
26 Sep	Robert C. Brown	Lt	Co C, 3rd Bn.		46

Figure 1. Basic dining facility accounting forms.

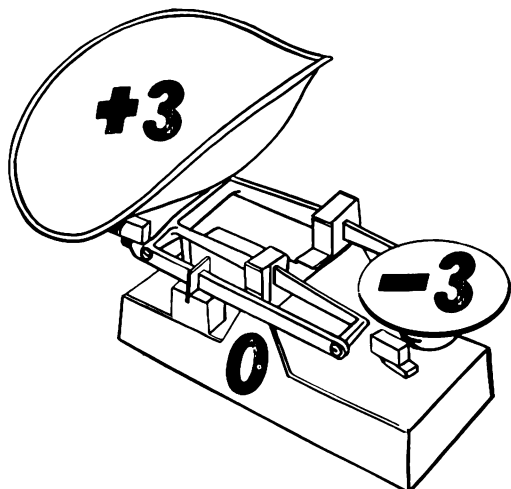


## REQUEST PROCEDURES

Under ARCS, you request food on an itemized machine printout, a preprinted DA Form 3294-R (Field Ration Issue Slip), or a DA Form 3161 (Request for Issue and Turn-In). When you do this, you are drawing food against a monthly monetary credit determined by multiplying the BDFA by the number of man days fed. You must make close headcount estimates. In estimating your diners, **THINK ABOUT—**

Holidays  
 Pass policies  
 Days of the week  
 Times of the month  
 Menu choices

You have a leeway of 3 percent over (+) or under (-) your dining facility's earned monetary credit. Your goal is a zero balance so that your diners get the food they want and are entitled to. If your account balance exceeds the (+) or (-) 3-percent figure at the end of the month, your food service officer and food adviser are alerted to a possible problem. Balancing your account is not an easy job; it takes time and skill on your part. The following keys to success help:



- Request only the food that you need.
- Eliminate food waste.
- Keep a close check on your dining facility account.
- Study the references in the back of this manual, especially the AR's.

## HEADCOUNT PROCEDURES

Headcounters may be either civilians or military (grade E4 or above). You will need a headcounter for each entrance door of your dining facility at mealtime. The records they keep are a vital part of your dining facility account.



## DUTIES OF THE HEADCOUNTER

- Counts all people eating in the dining facility.
- Records each diner on the right form.
- Collects cash from those paying for meals.
- Checks meal cards.
- Checks signature headcount sheets.

### Briefing Is a Must

You are responsible for the accuracy of the headcount records. If they are not accurate, your facility may not be getting the monetary credit it is entitled to. For this reason, you should have a headcount standing operating procedure (SOP). A good idea is to give each headcounter a folder with a copy of the SOP, the needed forms, and any other information you think he will need. The

headcounters must be briefed by you or someone you pick before they start to work. As a minimum, the SOP and briefing should include:

how to check diner authorization.  
the signature headcount system.  
meal card number recording system.  
cash meal payments.  
meal rate and reporting.  
a list of lost meal cards.  
samples of DD Form 1544 and DA Forms 3032, 3033, 3351, and 4548-R.

## CASH TURN-IN PROCEDURES

Turn in all cash collected from the sale of meals at least once a month (at least quarterly for ARNG), or

at the end of the day or as soon as possible when you have more than \$500 on hand.

as directed by the installation commander.

when all the pages of the DD Form 1544 have been used.

when changing food service officers.

## DD Form 1544 (Cash Meal Payment Sheet)

The cash meal payment sheet is a very important form which must be filled in accurately to avoid loss. It shows the:

Meal and surcharge rates.  
Number of meals sold.  
Amount of food cost collected.  
Amount of the surcharge collected.  
Book serial number.  
Sheet number.

When the amount of cash shown on the cash meal payment sheet and the actual cash turned in are not the same, a note must be made on the reverse side. The food service officer then reviews the sheet and it is turned in to the unit holding the DD Form 1544 book.

CASH MEAL PAYMENT SHEET										SERIAL NO. 362436	
TO BE COMPLETED WHEN THE GOVERNMENT IS TO BE REIMBURSED FOR MEALS FURNISHED											
ORGANIZATION OR DINING FACILITY										INCLUSIVE DATES COVERED	
① Co D QMS BDE FT LEE VA										FROM ② 26 Oct 76 THROUGH ③ 29 Oct 76	
FOOD CHARGES										SURCHARGES S.C.	
B .55 L .05 D .05 B .25 L .25 D .25 B .80 L .60 D .60										PLR DIEM SURCHARGE	
BR 1/20 DB 1/45 Other BR 25 DB 40 Other BR 160 DB 230 Other											
NAME										NAME	
CPT Harold J. Mathun										BALANCE BROUGHT FORWARD	
E-3										330 8 10 105 5 10	
E-3											
E-4											
E-4											
E-4											
E-4											
E-3											
E-3											
O-1											
O-3											
O-2											
E-4											
O-4											
SFC Tom Jondack										④ TOTAL	
DDE Simon Lund										5 50 15 24 383 9 70	
MSG J. K. J. J.										TOTAL CHARGES	
DDE Bruce J. Pagan										24 30 9 70	
PFC Charles Nelson										CASH OVER SHIRT	
TOTAL										(30) —	
										CASH TURNED IN	
										24 20 9 70	
										REMARKS	
										Shorage due to headcount error on 20 Oct 76	
SIGNATURE OF UNIT COMMANDER OR FOOD SERVICE OFFICER										SIGNATURE OF LAST FINANCIAL HEADCOUNTER	
⑤ Charles A. Moore, 1LT										⑥ Ronald C. Colman, CPL	

DD Form 1544  
(Cash Meal Payment Sheet)

Lists cash collected from diners who have to reimburse the Government for meals eaten. The food costs and surcharge rates are to be collected from each diner as stated in AR 30-1.

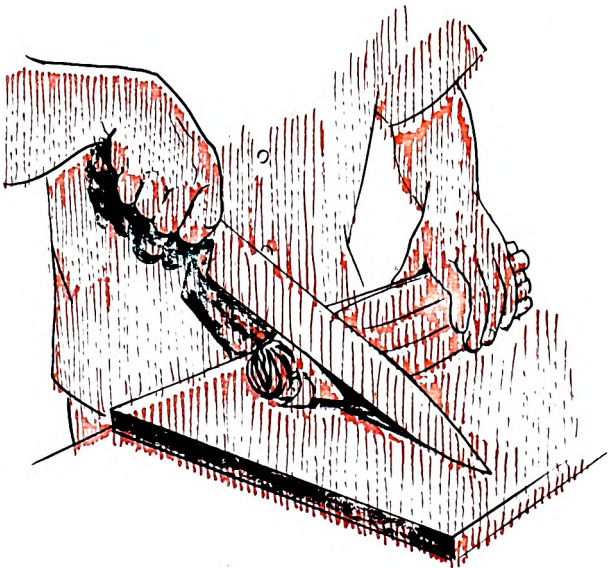
## INVENTORY PROCEDURES

As the food service sergeant, you have to know the status of your dining facility account. Keep up with it and your stock level if you want your dining facility to stay out of TROUBLE.

### How To

Take a monthly inventory of all food items on hand after you issue the dinner meal components on the last day of each month. You have an excess inventory if you have food above that needed for one issue cycle plus one day. Within 5 working days, send a verified copy of DA Form 3234-R (Inventory Record) and a copy of your DA Form 3980-R (Dining Facility Account Card) to your food adviser for review. Remember—

Post the account after each issue cycle.  
Keep the account balanced.  
Check your records with the TISA.



## CHAPTER 3

# SAFETY AND SANITATION

### DINING FACILITY SAFETY

Your dining facility can be a very dangerous place to work—it's your job to make it safe. Even if you already have a safety program set up by the food adviser or commander, make sure it fits your own facility. If you don't have a safety program, **see that one is started at once**. Your first step is to make your people **THINK SAFETY**. Get the message across with visual aids and OJT. If your people follow these commonsense rules, many accidents can be prevented.

#### In the storeroom—

**DON'T STORE CHEMICALS NEAR FOOD.** Store containers by contents, size, and type. Use sturdy shelving and place heavy goods on lower shelves. Have shelving low enough so you can easily see the contents.

#### Make sure you—

- Use a well-braced ladder to reach items on high shelves.
- Keep the aisles clear and the floor clean and dry.
- Get a good grip on the container.
- Bend knees, keep back straight, and use thigh and shoulder muscles for lifting.
- Keep load close to the body, walk normally, and ease the load to a resting place.
- Watch where you are going. **BE ALERT.**
- Get help if you need it. **DON'T TRY TO BE A SUPERMAN.**

#### In the cooking and serving areas—

Burns, bumps, and falls can happen often in the cooking and serving areas.

#### Make sure you—

- Turn handles of pots and pans so they point to the back or side of the range.
- Don't leave oven doors open.
- Use pot-handling pads for hot things.
- Clean up spills at once.
- If doors between cooking and serving areas don't have windows, leave the doors open.
- Give a warning when passing servers.
- Change steam table inserts carefully.
- Don't rush when carrying hot pans or food.

# THINK SAFETY !!!!!

### SPECIAL ATTENTION

#### Equipment

Your people need to be extra careful when they use equipment. **NEVER** let them use equipment until they are trained to operate it. **ALWAYS** follow the manufacturer's operating and maintenance instructions. Use all safeguards. Don't leave machinery running. If you think equipment is not working correctly, have the engineers check it—don't tinker.

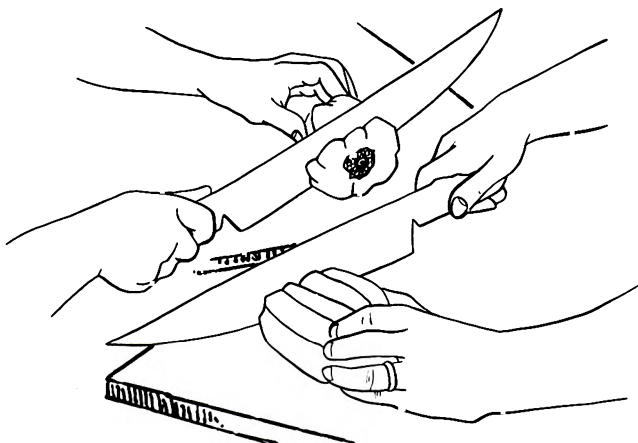


Some general equipment hazards depend upon the energy source.

SOURCE	DANGER	PREVENTION
Gas	Explosion, Fire, Burns, Toxic Fumes	Don't put flammable material near flame. Air room before lighting pilot.
Steam	Burns, Explosion	Make sure gages are working. Open doors or lids as instructed.
Electricity	Shock	Don't handle electrical equipment with wet hands. Keep grease and water out of wiring. Unplug before cleaning. Don't stand on a wet floor when operating.

### Knives

Knives are probably the single most dangerous items your people use. Make knife safety a *constant* part of your safety OJT. When your people know which knife to use and how to use and care for it, there will be fewer accidents. FM 10-25 tells more about the care and storage of knives.



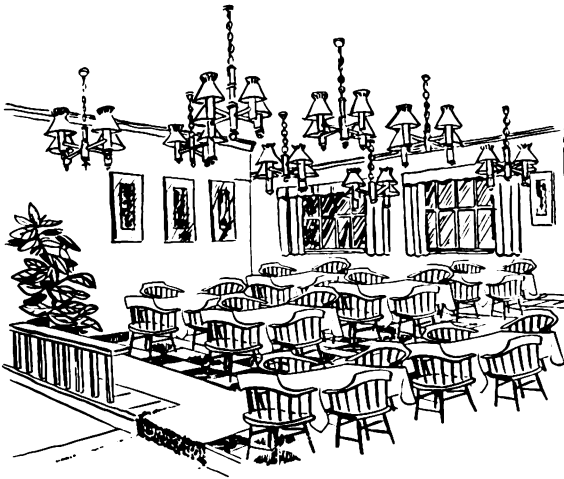
*Here are some safety rules for knives:*

- Cut away from the body.
- Use a sharp knife.
- Use a cutting board not the palm of your hand.
- Don't try to catch a falling knife.
- Don't use knives to open cans or pry off lids.
- Don't walk around with a knife in your hand.
- Store knives on a hanging rack or in a slotted rack.
- Wash knives separately from other utensils.
- **WASH AND STORE KNIVES IMMEDIATELY AFTER USE.**



## DINING FACILITY SANITATION

As a food service sergeant, you know food should always look good. But it is more important—to you and your diners—to use good sanitation in preparing and serving food. No one wants to get sick because the food handlers, equipment, building, and food were not CLEAN. Your OJT program must include training in sanitation. You can use personal checklists (table 2), SOP's, school training, and most of all, GOOD SUPERVISION.



## BUILDINGS

A sanitary dining facility is important to the health and morale of the diners. Even if your building is not new, it can still be neat and clean. If you take pride in caring for your building, the people working and eating in it will, too. If you don't care how it looks, they won't care either. The choice is yours. AR 40-5 gives you more information on keeping your dining facility clean.

### *HANDLE WITH CARE:*

*Any food which contains milk, milk products, eggs, meat, poultry, fish, or shellfish is considered hazardous food because it can cause illness when not handled, prepared, and stored correctly. Check AR 40-5 for more info.*



## EQUIPMENT

No one wants to eat from dirty dishes or utensils. Food left on dishes or utensils lets germs and bacteria grow and causes illness. To help make food safe to eat, the equipment and utensils used to prepare and serve it must be cleaned with care. All workers in your dining facility must know how to clean their equipment. They should follow the **CLEAN AS YOU GO RULE**. Spills should be cleaned up at once. You may want to set up a schedule for more thorough cleaning at a less busy time.

### When to Clean:

#### After use

Eating and drinking utensils  
Kitchenware and food-contact surfaces  
Food storage utensils

## Before and after use

Utensils and food-contact surfaces used in the preparation, service, display, or storage of potentially dangerous food

### Daily

Cooking surfaces

### When needed

Surfaces that do not come in contact with food

## IMPORTANT

Food and food cartons and cans must be disposed of often and in a way that will not cause odors and will not attract insects, rats, or mice. People who handle food **CANNOT** clean garbage cans, sewers, drains, latrines, or grease traps during the food preparation period.

	YES	NO	ACTION TAKEN
<b>HAIR</b>			
Cut and combed _____	_____	_____	_____
No dandruff _____	_____	_____	_____
Clean, not greasy _____	_____	_____	_____
Hair restraint _____	_____	_____	_____
<b>FACE</b>			
Clean shaven _____	_____	_____	_____
Clean teeth _____	_____	_____	_____
Clean skin _____	_____	_____	_____
<b>HANDS</b>			
Clean _____	_____	_____	_____
Nails clean and trimmed _____	_____	_____	_____
<b>BODY ODOR</b>			
Fresh _____	_____	_____	_____
No excess perfume _____	_____	_____	_____
<b>ILLNESS OR INFECTION</b>			
Skin free of cuts, burns, or boils _____	_____	_____	_____
No sign of cough or cold _____	_____	_____	_____
<b>DRESS</b>			
Shoes polished _____	_____	_____	_____
Clean, correct clothing _____	_____	_____	_____

Table 2. Personal Checklist

## WASTE DISPOSAL

Your dining facility has three types of wastes—liquid waste, garbage, and rubbish or trash. On an installation, your liquid waste will be taken care of through the sewer system. On some installations, you may have to separate the garbage from the trash. When you do, label the cans.

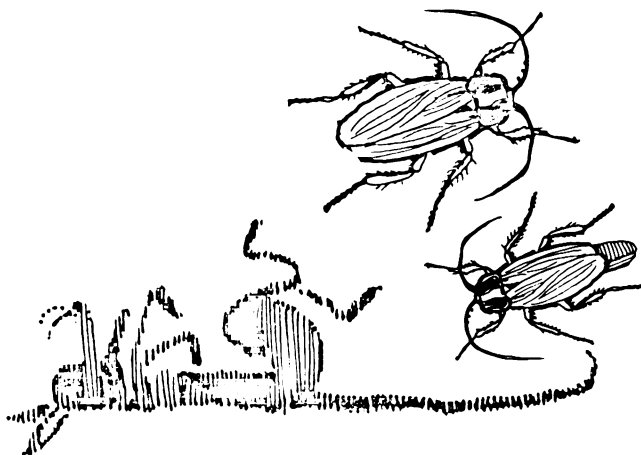


## INSECT AND RODENT CONTROL

If insects and rodents touch food, it is not safe to eat. The facilities engineers are in charge of getting rid of these pests, but your people can help control the problem by following these easy rules:

- Eliminate openings in walls or floors where they can enter.
- Check all incoming supplies.
- Wipe out breeding places.
- After opening nonperishables, store them in tightly closed containers.
- Screen windows and openings.

**STARVE THEM!** If they can't find food, they'll leave.



## FOOD-BORNE ILLNESSES

You don't want anyone to get sick from eating in your dining facility. To help prevent sickness, you and your food handlers must know the common types of food-borne diseases, their causes, and how to STOP them (table 3). Your people will be more careful of the rules if they know WHY they have to follow them.

ILLNESS	CAUSE
Staphylococcus or food poisoning	Poor personal sanitation. Food handlers with cuts, wounds, coughs or colds
Botulism	Damaged cans or jars
Salmonellosis	Poorly cooked poultry, poultry products, eggs and egg products, meats, milk, and dairy products
Streptococcus or food poisoning	Poor personal sanitation. Food handlers with coughs or colds. Storage at the wrong temperature
Dysentery	Food contaminated by people, water, flies, roaches, and rats
Trichinosis	Pork or pork products not cooked to an internal temperature of 60° C (150° F)

Table 3. Food-Borne Illnesses and Their Causes





## CHAPTER 4

# FOOD INSPECTION AND STORAGE

### INSPECTION

Inspect food supplies for quantity, weight, and condition as soon as you receive them. This helps to protect the troops from diseases spread by spoiled, damaged, or contaminated food, and it also helps you identify shortages. After inspection, store food supplies without delay to keep them from spoiling.

### FORCED ISSUES

Forced issue items are food items that must be issued at once to prevent loss to the government. When the Troop Issue Subsistence Officer (TISO) is aware of an upcoming food surplus, these items are substituted for items on the Master Menu at the local menu board meeting. When items in stock at a TISA must be issued at once to prevent loss (these will usually be perishable items), the vet inspects the items and recommends that the TISA force issue them. You must take forced issue items, but they will only be items that you can use in quantities that can be used before the next issue. Before storing forced issue perishables, remove any spoiled portions, such as wilted lettuce leaves, and discard damaged fruits and vegetables. Use nonperishables as rapidly as possible because they are near the end of their shelf life. Some may have reached it.

### QUANTITY CHECK

You, or someone you authorize, must count all individual items unless the items are packed in cartons with the quantity marked on them. When you receive less than you ordered, enter only the AMOUNT RECEIVED on the ration issue slip or other document that comes with the food. If you receive more than you ordered, return the extra supplies to the delivery source. If the supplies are short, let the issuing agency know at once. They can make up the shortage before you need the food.

### WEIGHT CHECK

Before you accept items that are issued to you, make a weight check (pounds and ounces). Mark any shortages on the issue slip.

### CONDITION INSPECTION

Check the food at the time of delivery for shape, color, and odor. If you believe that the food is not safe to eat, make a note on the issue document and ask the vet to check the food. DON'T throw out or destroy food until told to do so by the vet. The amount of food you turn down must be reported so the food items can be credited to your account or replaced.

*Prepare a DD Form 1608, Unsatisfactory Material Report (Subsistence) on any item you receive which is unsuitable for its intended use. The veterinarian and TISO will advise and assist you. AR 30-16 provides the details on preparing DD Form 1608.*



## NONPERISHABLES

Canned, dried, and dehydrated foods and items that you can store without refrigeration are nonperishable. They can't spoil or go bad quickly.

### Dry Stores

Check dry stores such as cereals, flour, and sugar for signs that they have been exposed to greasy substances, moisture, or contamination from bugs, rats, or mice. Return open containers to the source of supply unless it is clear they were opened during ration breakdown. If a container is discolored, open it and make sure the food is in good shape. If the food is good, close and store it.

### Canned Goods

Check the condition of the container that the cans are packed in. If the container is crushed or torn, open it and check the cans for holes and rust. Don't accept damaged cans. Return them to the source of supply and ask for new ones.



## PERISHABLES

Food items that need special temperature and humidity during movement, storage, and display are perishable.

### Frozen Foods

Check the frozen foods you receive for firmness and for signs of thawing and refreezing. If the package is hard on one side and soft on the other side, it is a sign of thawing and refreezing. Don't accept this food. You may have to store it until the vet can check it. Check all frozen meat and fish to see that the wrapper markings and the package shape show the meats are of the cut and type shown on the issue slip. As soon as you finish checking the food, store it in a frozen food cabinet.



### Fresh Fruits and Vegetables

Check fresh fruits and vegetables for mold, wilt, rot, and other defects. Remove the bad items and store the rest in the refrigerator right away.



## Meat and Poultry

Inspect meat and poultry for odor, color, damage and the presence of slime. The odor should be mild and the color normal, and there should be no damage or slime. Check poultry and cuts of meat to see if they are the same as those listed on your issue slip and menu.

## Milk and Dairy Products

The temperature of the milk brought to your dining facility should not be above 10° C (45° F). Broken or leaky cartons should be rejected. Bottles and cartons should be free of grease or dirt. Bulk milk containers must be delivered with both seals in place and with all rubber or synthetic parts protected from contamination. Make sure the date stamped on the package has not expired. After you finish your inspection, place the containers of milk in the refrigerator, with the oldest containers toward the front.

## Bread and Baked Products

Check the date code on baked items before accepting them. Don't accept items with an expired date on them. Your food adviser will provide you with the code used by the vendor. Post it so that the person doing the checking can refer to it easily.

## FOOD STORAGE

The main cause of waste in storing food is bad management. Except for forced issues, you accept only foods that are in good condition. To keep them that way, store both perishable and nonperishable foods as soon as you inspect them. Generally use the first-in, first-out rule and rotate your stock. Keep food in good condition by storing it right and using it as soon as possible, even if you have to make some changes in your menu.

## NONPERISHABLES

Nonperishable foods last longer than perishable foods, but you must still store them carefully. They can be affected by heat, dryness, too much moisture, bugs, rats, and mice. Store the oldest items at the front of the shelves so you can easily use them first.





## Storerooms

Store nonperishables in clean, dry, well-ventilated, odor-free storeroom, free of bugs and rodents.

## Shelving

Shelves let you store your supplies so you can make daily stock checks. The amount of shelving you need depends on how many supplies you must keep on hand. No matter how many supplies you store, it is important that you have some type of system for arranging them on shelves. Pick a system that works best for your dining facility and label the shelves so your people can easily find and store items. Be sure to set aside space for condiments and accessory items. Don't store open containers of flour and sugar on shelves. Put them in tightly covered containers. If you put flour and sugar in galvanized cans for storage, leave them in their original containers to prevent the danger of metal poisoning.

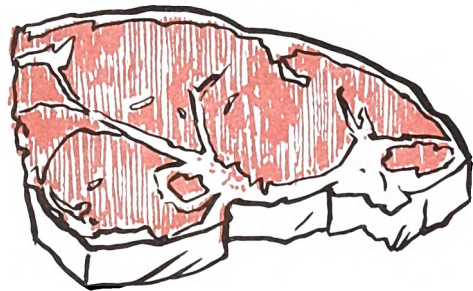
## PERISHABLES

When you store perishable items, consider the temperature, humidity, air circulation, and sanitation needed to keep the food from going bad. Store the food at the right temperature—0° C (32° F) to 10° C (45° F) for refrigerated items and -23° C (-10° F) to -18° C (0° F) for frozen items. Always doublecheck your temperature by keeping a thermometer in the refrigerator or freezer. Arrange the items so that air can move around them. Store the oldest items at the front of the shelves and use them first. Keep foods with strong odors away from foods that absorb odors. To operate efficiently, refrigerators and freezers must be kept clean, especially the door gaskets. There should be no more than a quarter of an inch of ice buildup on the inside of the freezer or freezer compartment.



## Fruits and Vegetables

Before you store fresh fruits and vegetables, remove those that are spoiled or damaged. Store the rest on refrigerated shelves, leaving room for air to move around. Store all frozen fruits and vegetables in the freezer until preparation time. NEVER REFREEZE thawed fruits and vegetables.



## Meats

Meats are delivered to your facility frozen. Allow at least 24 hours for thawing meats in a refrigerator after the meat has been taken out of the deep-freeze unit. Do not thaw meat in water or by using any form of heat. NEVER REFREEZE thawed meat.



### Eggs

Fresh eggs are perishable and must be stored in a refrigerator. Don't store eggs near foods which have odors. Keep frozen eggs in a freezer. Egg solids don't need refrigeration, but keep them in a cool, dry place and use them soon.

### Milk and Dairy Products

Refrigerate milk, cream, butter, cheese, and margarine. Butter absorbs odors and must be stored away from foods with strong odors. If cheese is frozen, the taste becomes flat and the texture becomes dry and crumbly, but it still can be used.

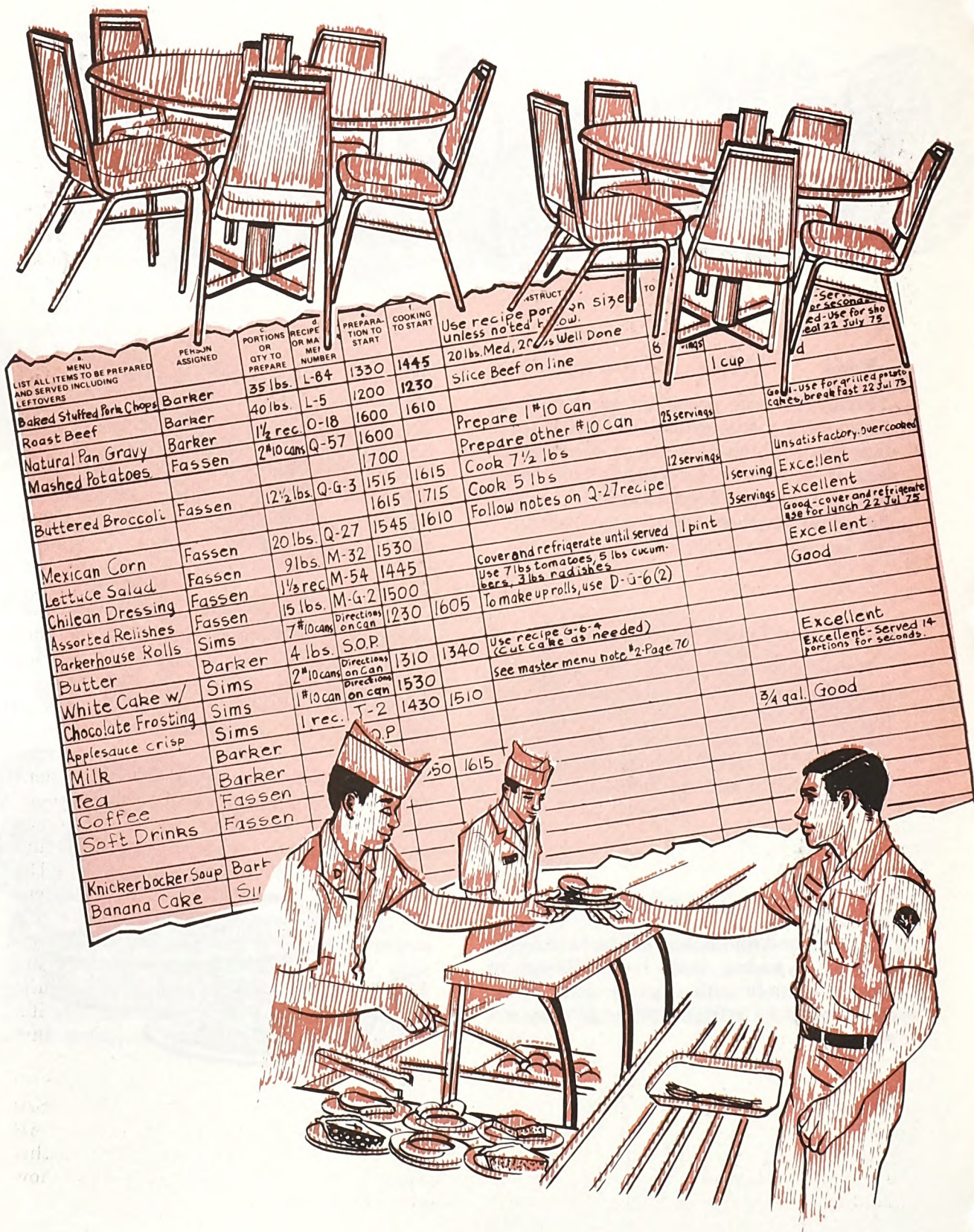


### Bread and Baked Products

Store bread and baked products in a cool dry place *unless* they have fillings or frostings made with eggs or milk. These items must be refrigerated until they are served.









## CHAPTER 5

# OPERATIONS



You're in charge. You have people supervising and advising, but when it comes to actual operation—you're running the show. Even a small dining facility is a costly production in terms of equipment, manpower, and food used annually. Your job is to operate as economically as possible and still give the diners what they are entitled to. The only way to do this is to have an efficient operation.

### FACILITIES

You may be in charge of a remodeled facility or a brand new one. In either case, you will have the same duties and responsibilities for the building and equipment. First, you are in charge of the security of the building and its contents. See that all doors and windows are locked when the facility is not in use. Food is an item that is easy to pilfer, so keep the storage areas locked, too. You and the food service officer should have the only keys to the key locker. When you are absent, the key should be given to the person left in charge.

### What You Can Do

Even if you don't have a brand new facility, you can still have one that is attractive and appealing to the diners. Get ideas from your diners to include in a self-help program. If they see their ideas included, they will not only want to help now, they will also help take care of the facility later. The TSA Decor Guide for Enlisted Personnel Dining-Facilities (Nov 1974) is a good source of ideas. Your plan may include ideas for interior painting, window coverings, lighting, and decorations such as murals and paintings. Use any diners who have artistic talents or decorating skills. Seasonal and holiday decorations that are not too elaborate or expensive are also great morale boosters.

### EQUIPMENT

The types and amounts of equipment your facility is authorized, based on troops fed, are given in CTA 50-911. You must keep information on each piece of preparation and serving equipment in your facility on DA Form 3988-R (Dining Facility Equipment Replacement Record) (fig 2). You keep one copy and send two copies to the food adviser. This information is needed to make sure funds are budgeted for replacement equipment. Also, it helps the engineers decide if a piece of old equipment is worth repairing. Sometimes even new equipment does not work like it should. When that happens, fill out a General Services Administration (GSA) SF 368 (Quality Deficiency Report); see AR 702-7 and AR 30-1 for help in filling out this form. Or your food adviser can show you how to fill out both forms.

DINING FACILITY EQUIPMENT REPLACEMENT RECORD					UNIT	PAGE NO	
For use of this form, see AR 30-1; the proponent agency is the Office of the Deputy Chief of Staff for Logistics.					1	2	
ITEM DESCRIPTION	FSN	ACQUISITION DATE	LIFE EXPECTANCY	PROGRAMED REPLACEMENT COST	AUTHORITY	PROGRAMED REPLACEMENT YEAR	REMARKS
a	b	c	d	e	f	g	
ICE CREAM CAB. KELVINATOR MOD. 853-SER #348567A	4110-00-170-1443	1 MAY 66	10		TB43-000 2-35	1976	Put in 1976. Budget Submitted 1974

1 Your dining facility.

2 The number of this page, followed by the total number of pages.

a. The make, model, and serial number listed on the equipment identification plate or DA Form 2062 (Hand Receipt/Annex No).

b. National stock number as listed on DA Form 2062.

c. Date equipment was first put in service. For used equipment, date of first use in any facility.

d. Life expectancy of equipment as listed in the TB or manufacturer's operating manual.

The following are only filled in when the item is replaced and the replacement cost has been included in the installation budget.

e. Cost of replacement equipment.

f. Document used to figure replacement cost.

g. Fiscal year equipment is budgeted for replacement.

- repair and install equipment.
- furnish certification to go with requisitions for new equipment.

## How To

Since operating instructions for equipment vary, you must have the manufacturer's operating manual for each piece of equipment. Have a system for filing the manuals—you may want to keep them in a binder. The food adviser and engineers can help get copies of the manuals you need. The engineers will show you how to operate the equipment they install. For more information on equipment, write: *The US Army Troop Support Agency, ATTN: DALO-TAF, Fort Lee, Virginia 23801.*

## Wash It Right

Your dishwashing machine is one of your most used pieces of equipment. You must know the manufacturer's operating manual even if contract people are using the dishwashing machine. How they do their job directly affects your operations. A good job saves money for your facility; a poor job costs. You also need MIL-HDBK-740, (Military Standardization Handbook, Dishwashing Operations).

No matter what make or type of dishwashers you have, there are some basic do's and don'ts your people can follow to avoid problems.

### DO

Know the capacity and speed of your machine.

Use the right detergent.

Clean as the manufacturer recommends.

Use the recommended temperature.

Read your operator's manual and keep it on file.

### DON'T

Overload or overwork your machine.

Use a hand dishwashing detergent.

Leave out removable parts after cleaning.

Use the machine if the water has not had time to heat to the correct temperature.

Throw your operator's manual away as soon as you read it once.

When dishes do not get clean or have water spots, there may be one or more causes to check. Table 4 covers the most common problems.

Problem	Cause	Possible Cure
Food left on dishes	Not enough detergent	Use more detergent.
	Wash water temperature too low	Use correct* temperature.
	Wash and rinse time too short	Use correct wash and rinse times.
	Poorly cleaned equipment	Unclog wash and rinse nozzles. Keep overflow open. Scrape dishes.
	Incorrect racking	Load correctly. Presoak silverware.
Film	Hard water	Use external water softener. Use correct water temperature.
	Detergent carryover	Use correct rinse water pressure and volume.
	Poorly cleaned equipment	Clean to prevent scale buildup.
Grease	Low PH	Correct alkalinity.
	Not enough detergent	Use more detergent.
	Low water temperature	Use correct temperature.
	Poorly cleaned equipment	Unclog wash and rinse nozzles.
		Change water in tanks as needed.
Streaking	Alkalinity	Treat water externally.
	Poorly cleaned equipment	Correct rinse water pressure and volume.
Spotting	Hard rinse water	Use external or internal water softening. Use rinse additive.
	Wrong rinse water temperature	Check rinse water temperature.
	Not enough time between rinsing and storage	Allow more time for airdrying.
Foaming	Detergent	Use a low sudsing detergent.
	Dissolved or suspended solids in water	Scrape dishes. Change water in tanks as needed.
Coffee, tea, or metal stains	Wrong detergent	Use chlorinated detergent.
	Poorly cleaned equipment	Clean wash sprays and rinse nozzles. Remove deposits of film or other material on equipment.

\*The term "correct" refers to procedures recommended in the manufacturer's operating manual.

Table 4. Dishwashing Problems Checklist

## Big Trouble

Poor operation or maintenance of facilities or equipment causes most of your problems in the kitchen area. Make sure that all drain covers, in the floor as well as in the sink, are not taken off. They are there for a reason—to keep large particles from clogging the drain. Clogged drains really slow down production and are unsanitary. If a piece of steam equipment doesn't have a strainer on the drain, use a colander or strainer under it when you drain and clean it. Garbage disposals can be a headache instead of a help when operating directions aren't followed. Another common equipment problem comes from poor sanitation; dirt and grease can ruin electrical wires and controls as well as clog pilot lights and burner openings.

## Until Help Comes

For safety reasons, your food service people should know how and where to cut off electrical switches, turn off gas and steam, and shut off the heating and cooling systems. When you do call for help from the engineers, make sure someone is available to tell them where and what the problem is. Their time is valuable, too.

## Saving Energy

You probably have a local program for saving energy. Here are some tips to follow for saving energy in a food service facility:

- Open refrigerator and freezer doors as little as possible.
- Preheat and cook using times and temperatures given in the recipe.
- Turn off all equipment when it is not being used.
- Clean grease and air filters.
- Defrost frozen foods before cooking when required by the recipe.

## PERSONNEL

### Your Operating Team

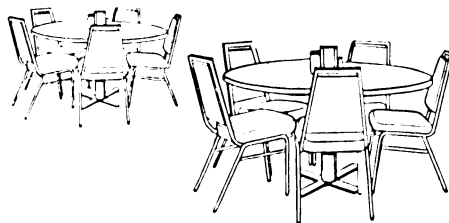
Your cooks may be civilian or military. Civilians do the dining facility attendants' job except in confinement facilities, training center facilities, and harbor craft dining facilities and during training exercises. Numbers and types of personnel to operate dining facilities are given in DA Pams of the 570 series. AR611-201 gives the duties of the 94B MOS.

### Your Cooks

Your cooks' main jobs are to prepare, cook, and serve meals. They must be able to prepare a wide variety of foods in small and large quantities using the recipes in TM 10-412 (Armed Forces Recipe Service). They must know how to use the dining facility equipment and utensils and follow the basic safety and sanitation rules. Your *first cook* on each shift is in charge of the kitchen, cooks, and other people. Have the first cook detail some of the duties so that he is free to supervise preparation, serving, and cleanup.

### Dining Facility Attendants

The duties of your civilian dining facility attendants (KP's) are covered in the local contract or job description for government employee KP's. Usually, they unload and store supplies, prepare fruits and vegetables for cooking, clean the building and equipment, operate dishwashers, and take out trash and garbage. The contracting officer's representative (COR) may check with you to make sure the duties are carried out. You won't directly supervise the contract people, but you will work with their shift leader.





## Scheduling Your People

Man-hours cost, too, even though they're not as easy to account for as food. To keep up morale, you should try to schedule each person to work a 40-hour week, but that's not always possible. Serving hours will be set by the CO. Serving and eating time for a regular meal will take about 90 minutes. Some dining facilities will probably be closed completely on weekends on a rotating basis, which will

help. Rotate the weekend work and try to give each of your people 2 consecutive days off. You don't want to have food service people standing around not working or getting in each other's way. Schedule your people so that more are working at peak times and fewer are working at slack times (fig 3). Try not to sacrifice efficiency and speed of serving. Your diners certainly won't like it, and the CO won't like it at all if you keep the troops in the dining facility too long.

**SAMPLE DINING FACILITY WORK SCHEDULE (7 day operation using 6 cooks)**

	MON		TUE		WED		THU		FRI		SAT		SUN	
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Cook 1	0500	1330	1100	1930	0530	1400	OFF		OFF		1100	1900	0700	1530
Cook 2	0500	1330		OFF		OFF	1100	1930	0530	1400	1100	1900	0700	1530
Cook 3	0530	1400	1100	1930	0500	1330	1100	1930	0500	1330		OFF		OFF
Cook 4		OFF		OFF	1100	1930	0500	1330	1100	1930	0700	1530	1100	1900
Cook 5	1100	1930	0500	1330		OFF		OFF	1100	1930	0700	1530	1100	1900
Cook 6	1100	1930	0530	1400	1100	1930	0500	1330		OFF		OFF	1100	1900

**SAMPLE DINING FACILITY WORK SCHEDULE (7 day operation using 8 cooks)**

	MON		TUE		WED		THU		FRI		SAT		SUN	
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Cook 1	0500	1330	1100	1930	0530	1400	OFF		OFF		1100	1900	0700	1530
Cook 2	0500	1330		OFF		OFF	1100	1930	0530	1400	1100	1900	0700	1530
Cook 3	0530	1400	1100	1930	0500	1330	1100	1930	0500	1330		OFF		OFF
Cook 4		OFF		OFF	1100	1930	0500	1330	1100	1930	0700	1530	1100	1900
Cook 5	1100	1930	0500	1330		OFF		OFF	1100	1930	0700	1530	1100	1900
Cook 6	1100	1930	0530	1400	1100	1930	0500	1330		OFF		OFF	1100	1900
Cook 7	1100	1930	0500	1330	1100	1930	0530	1400	1100	1930		OFF		OFF
Cook 8		OFF	1100	1930	0500	1330	1100	1930	0500	1330	1100	1900		OFF

Figure 3. Sample dining facility work schedules.

## Menu Planning

As the food service sergeant you are responsible for planning the menu for the troops that eat in your dining facility. TSA has made up a master menu, SB 10-260, based on the annual food plan for each month. This menu uses the recipes in the Armed Forces Recipe Service (your card file). As long as you serve meals based on the master menu, you know that the troops are getting good, healthy meals. However, if your dining facility works under ARCS, you can make changes in the menu as long as they are within the dollar credit earned by your facility. You, more than anyone, know what the troops like to eat. Try to please them as much as you can, but remember that you must serve a well balanced meal. You are not a nutrition expert, so if you substitute foods, use

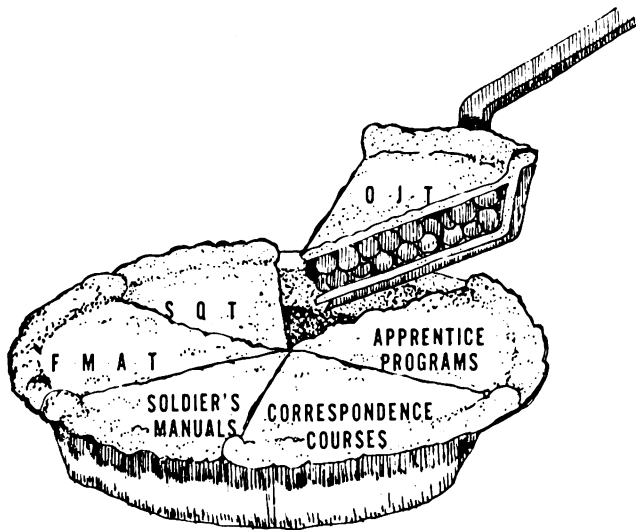
like items. Whatever menu you use, it must provide well balanced meals consisting of many foods which the troops like.

## The Cooks' Worksheet

The most important tool for the daily preparation and scheduling of meals is the cooks' worksheet (fig 4). It tells who does what and when, gives the recipe or posted standing operating procedure (SOP) to use, and tells how much to prepare for each meal, including short-order or specialty meals. All changes made after posting must be initialed by you or the first cook. You may need to post more than one worksheet in a large facility or in one with separate areas for salad or pastry making. All this will be a waste of time, however, unless you make sure your people read and use the worksheets.

a. MENU LIST ALL ITEMS TO BE PREPARED AND SERVED INCLUDING LEFTOVERS	b. PERSON ASSIGNED	c. PORTIONS OR QTY TO PREPARE	d. RECIPE, SOP OR MASTER MENU NUMBER	e. PREPARA- TION TO START	f. COOKING TO START	g. SPECIAL INSTRUCTIONS Use recipe portion size unless noted below.	h. LEFTOVERS TO BE USED	i. LEFTOVERS TO BE DISCARDED	j. MENU ITEM COMMENTS
Baked Stuffed Pork Chops	Barker	35 lbs.	L-64	1330	1445	20 lbs. Med, 20 lbs Well Done		2 servings	Excellent-Served 5 portions for seconds.
Roast Beef	Barker	40 lbs.	L-5	1200	1230	Slice Beef on line	8 servings		Overcooked-Use for short order meal 22 July 75
Natural Pan Gravy	Barker	1 1/2 rec.	O-18	1600	1610			1 cup	Good
Mashed Potatoes	Fassen	2 #10 cans	Q-57	1600		Prepare 1 #10 Can			
				1700		Prepare other #10 Can	25 servings		Good-use for grilled potato cakes, breakfast 22 Jul 75
Buttered Broccoli	Fassen	12 1/2 lbs.	Q-G-3	1515	1615	Cook 7 1/2 lbs			
				1615	1715	Cook 5 lbs	12 servings		Unsatisfactory, overcooked
Mexican Corn	Fassen	20 lbs.	Q-27	1545	1610	Follow notes on Q-27 recipe		1 serving	Excellent
Lettuce Salad	Fassen	9 lbs.	M-32	1530				3 servings	Excellent
Chilean Dressing	Fassen	1 1/2 rec.	M-54	1445		Cover and refrigerate until served	1 pint		Good-cover and refrigerate use for lunch 22 Jul 75
Assorted Relishes	Fassen	15 lbs.	M-G-2	1500		Use 7 lbs tomatoes, 5 lbs cucum- bers, 3 lbs radishes			Excellent
Parkerhouse Rolls	Sims	7 #10 cans	Directions on can	1230	1605	To make up rolls, use D-5-6 (2)			Good
Butter	Barker	4 lbs.	S.O.P.						
White Cake w/	Sims	2 #10 cans	Directions on can	1310	1340	Use recipe G-6-4 (Cut cake as needed)			
Chocolate Frosting	Sims	1 #10 can	Directions on can	1530		See master menu note #2-Page 70			Excellent
Applesauce crisp	Sims	1 rec.	J-2	1430	1510				Excellent-Served 14- portions for seconds.
Milk	Barker		S.O.P.						
Tea	Barker		S.O.P.					3/4 gal.	Good
Coffee	Fassen		C-5	1550	1615				
Soft Drinks	Fassen		S.O.P.						
Knickerbocker Soup	Barker	1 1/2 gal.							
Banana Cake	Sims	20 serv.							

Figure 4. Filled in cooks' worksheet.



## TRAINING

Training is costly, but it saves money in the end. You can't have an efficient operation without trained people. Also, the food will be better prepared. Keep some kind of record, such as a card file or notebook, to show who has had training and the subjects covered. There are several types of food service training; you should know how to make use of all of them. Work with your food service officer to get service school training for each of your people, civilian as well as military. It is hard sometimes to find the funds and time needed, but it pays in the long run. You should remember that trained people

- need less supervision
- develop good work habits
- take more pride in their work
- prepare better meals
- give good service
- waste less food
- are safer workers

### The Apprentice Program

The Army apprentice program encourages your food service personnel to take useful courses by giving credit that can be used in civilian life. The program has been set up with the cooperation of the American

Culinary Federation and the Department of Labor. The Education Services Officer coordinates the program at the local level. You can help by keeping track of what each person does and how well he does it.

### Skill Qualification Tests

Your military food service people must take a skill qualification test (SQT) for the 94B MOS at least every 2 years. If they fail their SQT test, they must retake it within a year. Their score on the test determines if they are eligible to be promoted. The SQT tests are based on tasks listed in a soldier's manual. Make sure your cooks have and use the FM 10-94B soldier's manuals for the food service specialist at their skill level. Your CO has a commander's manual for the food service specialist (FM 10-94B/CM) which gives his responsibilities for the 94B training program. Your part is to make sure your training program includes the technical tasks listed for the 94B MOS at each skill level.

### On-the-Job Training (OJT)

The key to OJT is that people learn while they work. Table 5 gives some basic subject areas to include in an OJT program. Your aim, as food service sergeant, is to have all your people trained to do any job in the preparation and serving of meals. Your new people must be rotated so that when they learn one task, they are moved to the next one. Your experienced cooks need to be able to train as well as cook. Select the trainer wisely. A good cook is not always a good instructor, so you may have to start your OJT program with instructor training. In addition to training new people in the preparation and serving of food, training of food service personnel must cover such areas as safety, care and use of kitchen equipment, nutrition, and personal hygiene and sanitation. Safe work habits cut down on accidents and the number of work hours lost. Good food preparation depends on the right use and care of kitchen equipment. Knowing how to run a dishwasher, the temperatures for food storage, and the correct use and care of

equipment cuts the chance of troop sickness and food waste. A basic knowledge of nutrition helps the trainee understand why food must be prepared right. You are responsible for all the teaching and on-the-job training your people get. Your daily cooks' meeting is a good time to provide training. You should cover the good and bad points of yesterday's operations, as well as what to do today, and provide some training that everyone might need—like meat cookery or care of knives. You should set performance standards and measure the performance of all personnel in each grade against these standards. Schedule your meeting at a slack time when everyone can be there. Keep it short, no more than 30 minutes. Training is for everyone, not just new cooks. Your civilian contract people need to be trained too. You will have to work with their shift leader or the contractor, but the contract people need training in the jobs they do. It not only will speed up their part of the operation, but will also cut waste in food preparation and add to the life of the equipment.



These are some basic subject areas to include in an OJT program in a garrison dining facility.

SUBJECT	REFERENCE
Basic cooking terms .....	TM 10-412
The cooks' worksheet .....	AR 30-1
Sanitation .....	AR 40-5 FM 21-10
Beverages .....	FM 10-25 TM 10-412
Soups, sauces, and gravies .....	FM 10-25 TM 10-412
Vegetables .....	FM 10-25 TM 10-412
Paste products .....	FM 10-25 TM 10-412
Salads and salad dressings .....	FM 10-25 TM 10-412
Desserts other than pastry .....	FM 10-25 TM 10-412
Sandwiches .....	FM 10-25 TM 10-412
Meat, seafood, and poultry .....	TM 10-412 FM 10-25
Cakes, pies, yeast products .....	TM 10-412 FM 10-22
Cookies and quickbreads .....	TM 10-412 FM 10-22

Table 5. What Your OJT Program Needs



### Other Training Aids

The Food Management Assistance Team which comes from TSA will help you with training. Tell these experts your needs and they will train in that area. They may also suggest training that you didn't know was needed. They are there to help, not to inspect or report weaknesses. Films and tapes are available from TSA, too. For individual training, there are food service correspondence courses available that your people can take by writing to: *Army Correspondence Course Program (ACCP), US Army Training Support Center, Newport News, Va. 23628.*

### Checking Operations

To tell how efficient your operation is, you will need some type of inspection checklist or SOP. Table 6 provides a suggested list, which you can change to fit your needs. You may not need to use the whole list each time. You will probably include a personnel inspection as part of the SOP for the start of a shift. Your kitchen and equipment may need to be inspected after a meal is prepared, while storage areas may need to be inspected after rations are stored. No one checklist can cover the needs of each individual dining facility. Just make sure you have an established checklist or inspection SOP to go by in your dining facility.



This checklist is a guide for dining facility inspections and can be changed to meet your needs.

	YES	NO
<b>PERSONNEL</b>		
Uniforms clean _____	_____	_____
Fingernails clean _____	_____	_____
Headcoverings used _____	_____	_____
No jewelry except wristwatch and wedding band _____	_____	_____
Haircut _____	_____	_____
Clean shaven _____	_____	_____
Free of signs of illness or infection _____	_____	_____
Current food handler certificates _____	_____	_____
<b>ADMINISTRATION</b>		
Current regulations on file _____	_____	_____
Current manuals on file _____	_____	_____
Cooks' worksheets posted _____	_____	_____
Cooks' worksheets made out right _____	_____	_____
Cooks' worksheets signed by authorized person _____	_____	_____
Headcounters on duty at each entrance _____	_____	_____
Meal rates entered on the cash meal payment sheets _____	_____	_____
Headcount records kept _____	_____	_____
Cash meal payments sheets and cash are protected _____	_____	_____
Accounting forms up to date _____	_____	_____
Dining facility account kept within regulation _____	_____	_____
Inventory records kept _____	_____	_____
Inventories are not in excess _____	_____	_____
SOP's are current _____	_____	_____
SOP's are easy to follow _____	_____	_____
<b>DINING AREA</b>		
Storage racks clean _____	_____	_____
Dispensing machines clean _____	_____	_____
Milk rotated _____	_____	_____
Tables and chairs clean _____	_____	_____
Dishes, trays, and silverware for all diners _____	_____	_____
Silverware stored right _____	_____	_____

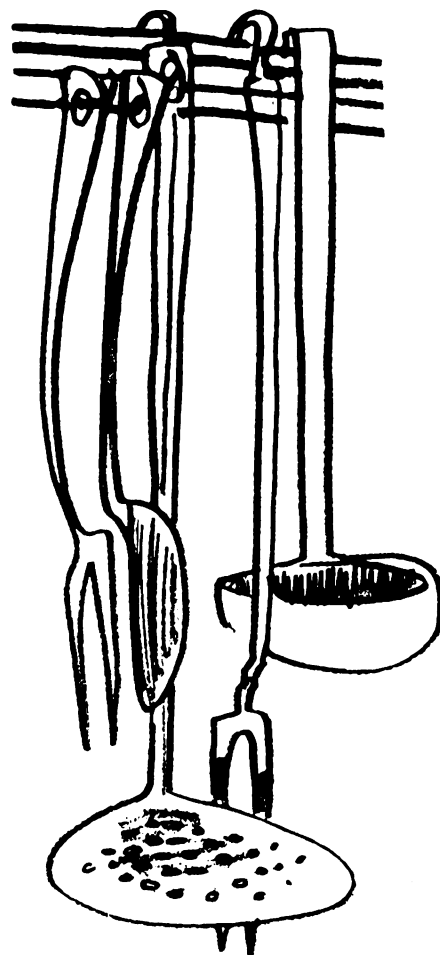


Table 6. Dining facility inspection checklist.

Table 6. (Continued)

	YES	NO
Floors clean _____	_____	_____
Walls and woodwork clean _____	_____	_____
Curtains clean _____	_____	_____
Screens clean and in good shape _____	_____	_____
Screens fit _____	_____	_____
Menu for the day posted _____	_____	_____

**KITCHEN AND KITCHEN EQUIPMENT**

Floors clean and dry _____	_____	_____
Floors clean under, behind, and around appliances _____	_____	_____
Floor drains clean and have covers _____	_____	_____
Windows clean _____	_____	_____
Screens clean and in good shape _____	_____	_____
Knives clean and stored _____	_____	_____
Utensils clean and stored _____	_____	_____
Equipment clean _____	_____	_____
Dishes washed and stored _____	_____	_____
Equipment kept up _____	_____	_____

**FOOD PREPARATION AND SERVING**

Standard Army recipes used _____	_____	_____
Cooks' worksheets posted _____	_____	_____
Sanitary measures used _____	_____	_____
Progressive cookery used _____	_____	_____
Little food wasted _____	_____	_____
Leftovers stored _____	_____	_____
Steamtable preheated _____	_____	_____
Food arranged neatly _____	_____	_____
Choice of salads _____	_____	_____
Choice of fresh breads _____	_____	_____
Hot foods served hot _____	_____	_____
Cold foods served cold _____	_____	_____
Portion control used _____	_____	_____
Correct serving utensils used _____	_____	_____

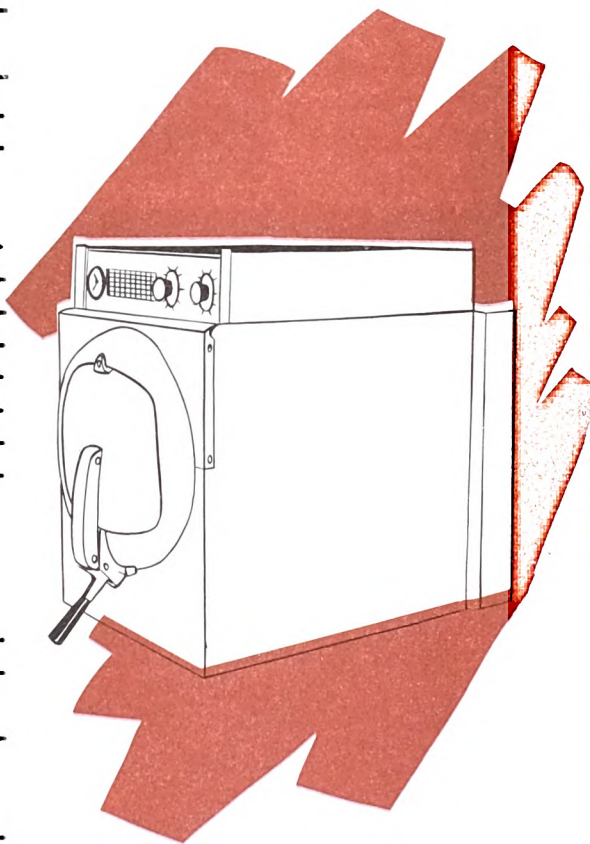
**RECEIPT AND STORAGE OF SUBSISTENCE**

Food checked for:		
Quantity _____	_____	_____
Weight _____	_____	_____



Table 6. (Continued)

	YES	NO
Condition _____	_____	_____
Refrigerators and freezers clean _____	_____	_____
Refrigerator and freezer thermostats accurate _____	_____	_____
Refrigerators have good air circulation _____	_____	_____
Perishables stored right _____	_____	_____
Nonperishables stored right _____	_____	_____
<b>OUTSIDE AREA</b>		
Outside area clean _____	_____	_____
Garbage racks clean _____	_____	_____
Garbage cans clean _____	_____	_____
Faucets shut off _____	_____	_____
Mops clean _____	_____	_____
Mops stored right _____	_____	_____
Protected from bugs and rats _____	_____	_____
Lids on cans _____	_____	_____
<b>ENERGY CONSERVATION</b>		
<b>LIGHT FIXTURES</b>		
Turned off when not used _____	_____	_____
Low-wattage bulbs used _____	_____	_____
Fluorescent lights used when possible _____	_____	_____
<b>FILTERS</b>		
Clean _____	_____	_____
Changed when needed _____	_____	_____
<b>COOKING</b>		
Preheating instructions followed _____	_____	_____
Thermostats accurate _____	_____	_____
Recipe temperatures used _____	_____	_____
Ovens off when not used _____	_____	_____
<b>REFRIGERATION</b>		
Tight gaskets around doors _____	_____	_____
Doors closed _____	_____	_____
Thermostats accurate _____	_____	_____



Each chapter of part II has a page at the end which you should use to make this manual a more useful field training tool. Write down such things as extracts from your unit SOP, changes to TM's you use, training tips, critiques of field training exercises, or whatever helps you do a better job.

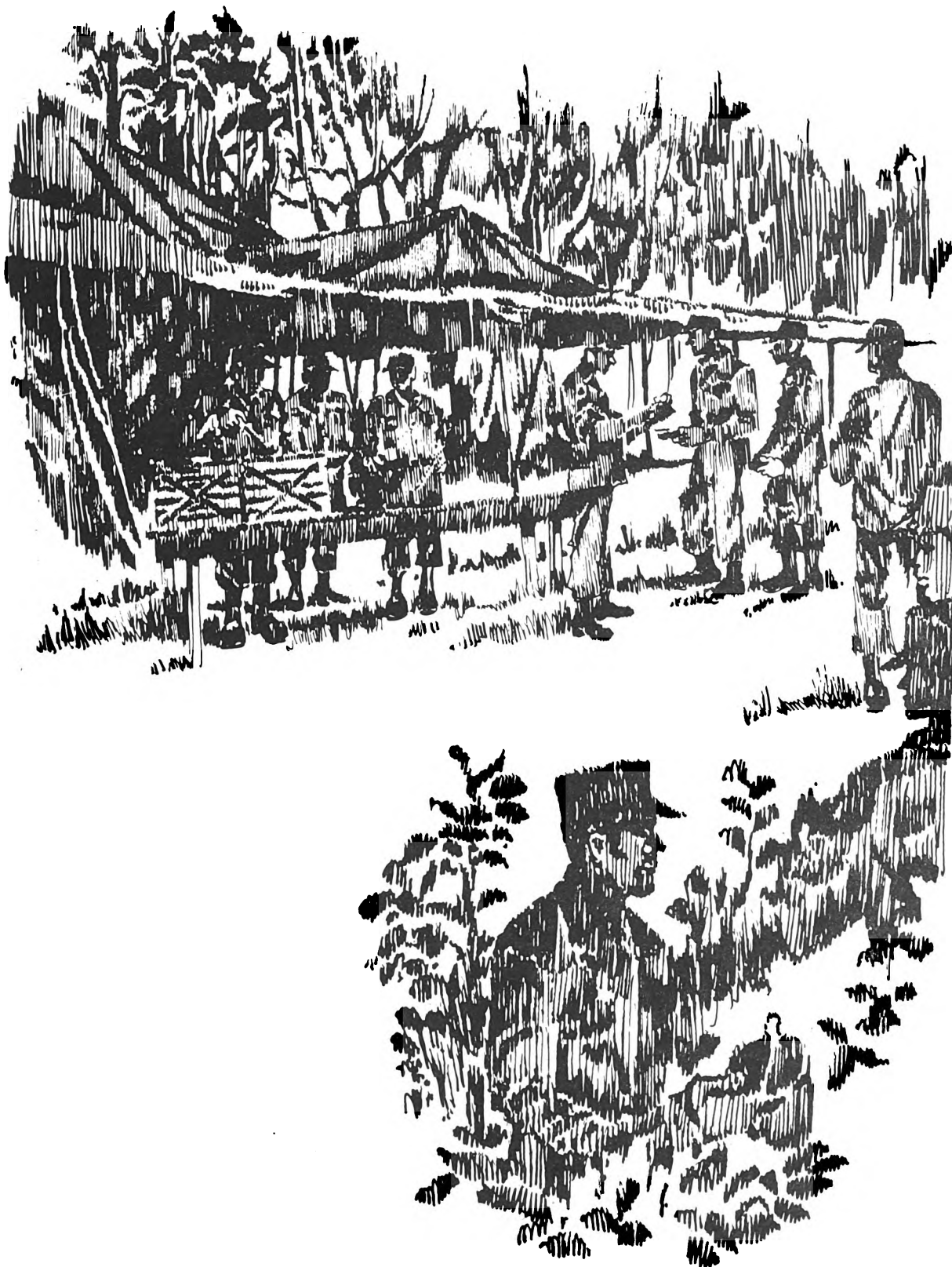




## PART II FIELD FOOD SERVICE OPERATIONS







## CHAPTER 6

### THESE ARE THE BASICS

#### WHO DOES WHAT JOB

The **commander** (CO) in the field selects the general location for the field kitchen and makes sure that—

- troops are well fed.
- enough people are assigned.
- they are trained for their jobs.
- they have the equipment they need.
- food is accounted for accurately.
- meals, combat, individual (MCI's) or meals, ready-to-eat (MRE's) are rotated.



The **food service officer** acts as liaison between the commander and you, the food service sergeant. He makes sure that—

- an on-the-job training (OJT) program is carried out.
- headcount and serving procedures are followed.
- unit strength figures are given to you.
- forms are complete and correct.

The **food adviser** assists the CO in setting up field training exercises and coordinates field feeding of tactical units. You can also call on him for help or technical advice on menu planning, records and accounting, supplies and equipment, and scheduling.

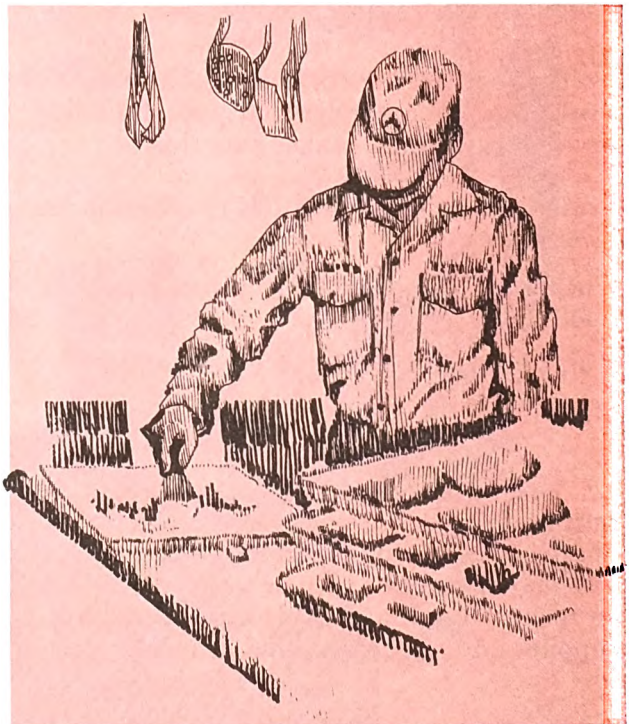
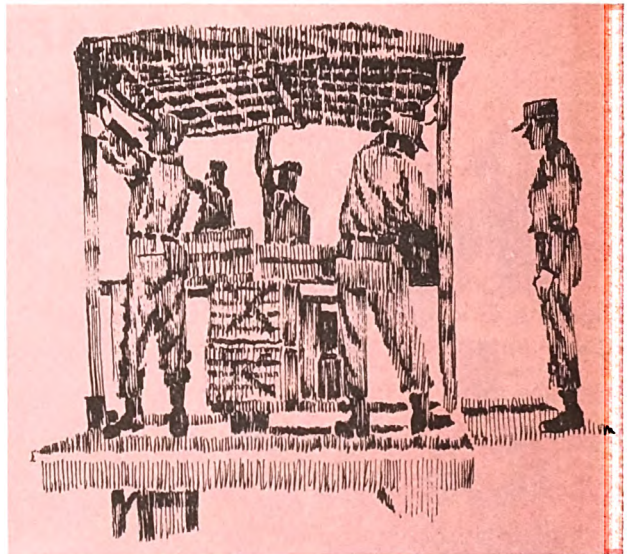


The **food service sergeant**. You run the field kitchen and are in direct charge of operations. Your main duties are to—

- select the field kitchen site;
- work closely with supervisors and subordinates;
- decide how to assign your people to the tasks needed to be done;
- hold daily meetings with your staff to discuss preparing, cooking, and serving food, problem areas, safety, and ways to improve operations;
- teach your staff and supervise the training the cooks give their helpers;
- instruct headcounters and prepare an SOP (Standing Operating Procedure) for them to follow;
- establish operating procedures for your cooks and write SOP's for them to use;
- prepare the cooks' worksheet;
- estimate future meals needed and fill out DA Form 2058-R (Ration Request for Theaters of Operations); and
- keep a file of all required records.

Your **cooks** prepare and serve food using the information on the cooks' worksheet. The first cook is in direct charge of the kitchen and the cooks and takes over for you when you are off duty.

In the field, your **dining facility attendants** are military KP's. They help prepare fruits and vegetables, clean the equipment, wash utensils, get rid of kitchen wastes, and do any other jobs that you give them. However, don't let KP's cook.





## TRAINING

The time to train for field operations is before you go to the field. Once there, you'll be expected to run a working field kitchen. So there won't be a lot of time to teach your people what they could have learned back in garrison. Before you go to the field, use your training time to practice setting up and taking down kitchen tents. If you have a mobile field kitchen, practice setting it up and closing it up. Take time to train your people to use the M59 field range, including lighting the M2 burner unit and placing it in the range for field cooking. Make sure you also include refresher training on preparing operational rations.

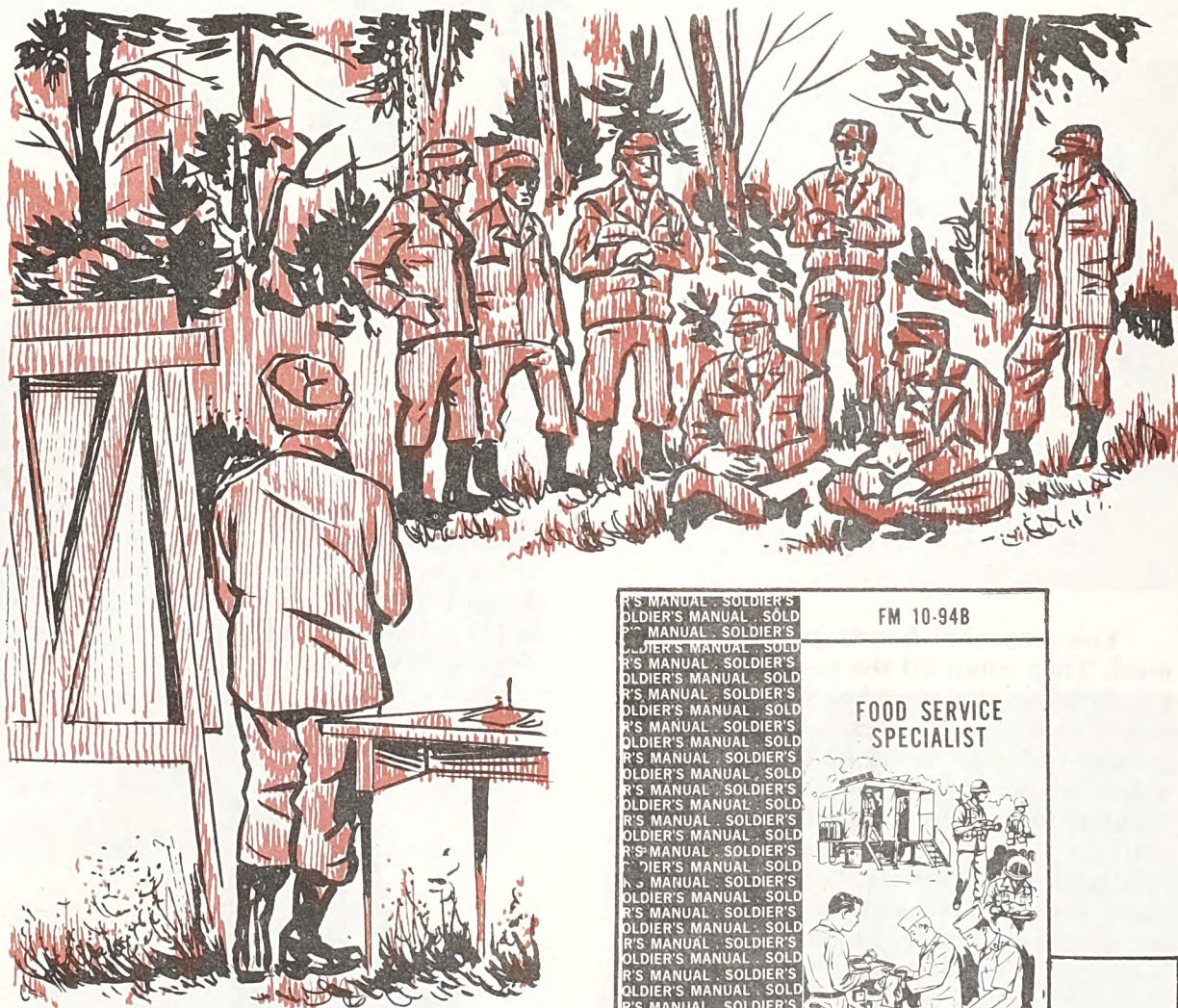
You may need *headcounters* at every meal. They count all the people who eat at your kitchen site, record each person on the right form, and collect cash from those who must pay for their meals. Make sure you have a headcounter for each serving line. Headcounters must be grade E4 or higher, and they can't be people regularly assigned to your field kitchen. Have the first sergeant get them there ahead of time so that you or the food service officer can brief them on their duties before the meal. Headcounters keep records that are a vital part of accounting. However, there are occasions when you won't need a headcounter. See AR 30-1 to find out when.

Besides their basic duties, your food service people have plenty of things to cope with in the field. They have to set up the kitchen site. They must maintain immersion heaters, operate in limited space and maybe under light discipline (using essential lights only), and carry meals to troops who are eating in areas remote from the kitchen site. They also have guard duty. Their equipment is different from that used in garrison, and they must put more time into cleaning because sanitation in the field is a tough job.

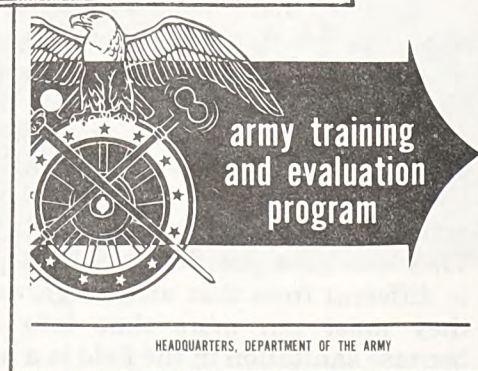
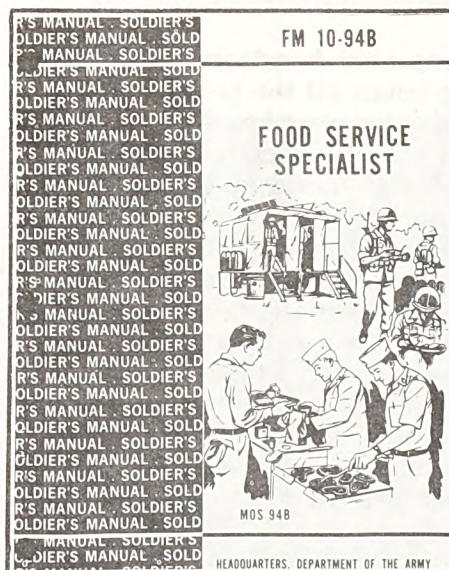


For field kitchen operations to run smoothly, you must have teamwork. It will help your people succeed in doing their jobs. You develop teamwork through a good training program.





Before you start field training, your people have to know their duties. Their MOS job description tells them this. But it is by *doing* their jobs that they get to be good at them. You, the food service sergeant, have the job of setting up and carrying out OJT and a refresher training program. You are responsible for seeing that your people learn their jobs and do them well. You will count on your experienced cooks to do the actual training. As you get people new to the field environment, move them from one job to another as they learn each job. Remember, training isn't just for new cooks. It's for everyone.





You can use many kinds of training aids to help your people raise their skill levels and to help you train them to work as a team. These training aids include—

### **Soldier's Manuals:**

The FM 10-94B soldier's manuals tell in detail the tasks a Food Service Specialist must be able to do at each skill level so that he is able to do well in his MOS. Use these to find out the standards that your people should meet. They will be tested on their skills when they take the Skill Qualification Tests (SQT's).

### **Training Circulars (TC's):**

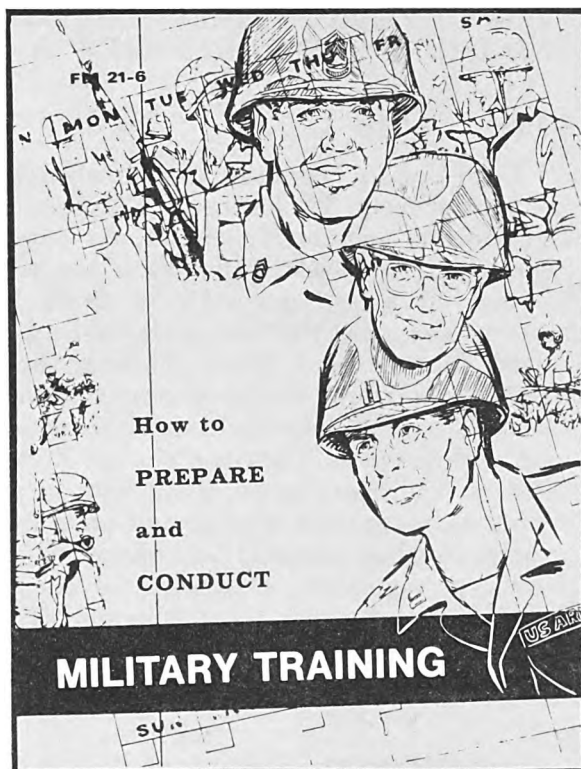
TC's give you the most up-to-date training information. Their contents may later be included in other new or revised training publications.

### **Training Extension Course (TEC) Lessons:**

These are self-study lessons on individual skills that will help you keep your people up to par and help them earn promotion points.

### **Field Manuals (FM's):**

FM's cover the military doctrine, tactics, and techniques you need to know to carry out your duties as a food service specialist. They also provide instructions, information, and reference material for military training and operations.



### **Technical Manuals (TM's):**

These manuals are equipment-oriented. They tell you how to install, operate, and maintain your equipment—areas that should play a very big part in the training your people receive.

### **Army Training and Evaluation Program (ARTEP's):**

ARTEP's help the unit commander evaluate the past training of his unit and help him plan for its future training needs. Your unit's ARTEP describes the tasks that you and your people must be able to do as a team, the conditions under which you will do them, and the standards you must meet to be considered combat-ready.

## MENUS, RATIONS, ACCOUNTING, AND THE COOKS' WORKSHEET

### Menus

Each theater of operations publishes its own master menu or uses the CONUS menu. The theater commander makes the troop feeding policy and selects the ration that will be used. (You will generally be using B rations.) The menu must be approved by the Master Menu Board. Food advisers, food service technicians, and food service supervisors help plan menus, keeping them as simple as possible. They can change items listed on the menu to go along with local buying and supplying conditions. Generally, a menu consists of meat, fish, or poultry, a starch, a vegetable, a dessert, beverage, bread, and condiments. Use the menus in SB 10-495 as guides.

DEPARTMENT OF THE ARMY SUPPLY BULLETIN  
DEPARTMENT OF THE NAVY PUBLICATION  
DEPARTMENT OF THE AIR FORCE MANUAL  
MARINE CORPS PUBLICATION

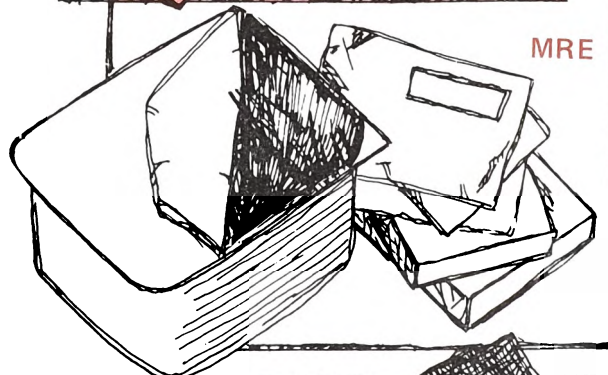
\*SB 10-495  
\*NAVSUP PUB 274 REVISION  
\*AFM 146-4  
\*MCO P10110.25B

### STANDARD "B" RATION FOR THE ARMED FORCES

DEPARTMENTS OF THE ARMY, THE NAVY, AND THE AIR FORCE  
MAY 1971

### Rations

The Army ration is a set amount of food that gives each person nutritious meals every day. In the field, you may be eating food from Field Ration A, Standard B Ration, MCI's, MRE's, or LRP's (Food Packet, Long Range Patrol), depending on your situation.



## Accounting

You have to account for rations even when you are in the field. During field exercises of *less* than 30 days, Active Army units can still use the Army Ration Credit System (ARCS). If it isn't practical to use ARCS (usually during field exercises over 30 days), then you will use the Field Ration Issue System (FRIS). Under this system you request food, get credit, and keep your account on a meal basis. The forms you use are DA Form 2970 (Subsistence Report and Field Ration Request) and DA Form 3251-R (Over and Under Record—Meals). US Army Reserve (USAR) and Army National Guard (ARNG) units use FRIS at all times *unless* granted special authority not to use it. AR 30-1 gives you the details.

OVER AND UNDER RECORD - MEALS										MONTH & YEAR		UNIT			
For the use of this form see AR 30-1, the proponent agency is the office of the Deputy Director for Logistics															
STRENGTH, HEADCOUNT AND CUMULATIVE OVER AND UNDER															
BREAKFAST				LUNCH				DINNER				BRUNCH			
DATE	ISSUE	HC	Cumulative Status Over Under	ISSUE	HC	Cumulative Status Over Under	ISSUE	HC	Cumulative Status Over Under	ISSUE	HC	Cumulative Status Over Under	ISSUE	HC	Cumulative Status Over Under
1															
2															
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31															

DA FORM 3251-R, 1 JAN 77 REPLACES DA FORM 3251-R, 1 DEC 70, WHICH IS OBSOLETE

SUBSISTENCE REPORT AND FIELD RATION REQUEST											
For use of this form, see AR 30-1, the proponent agency is the office of the Deputy Chief of Staff for Logistics.											
TO (Include ZIP Code)					FROM (Include ZIP Code)						
UNIT					CONSOLIDATED						
SUBSISTENCE REPORT ONLY					PERIOD OF						
SECTION A: SUBSISTENCE REPORT											
1	DATE(S)	a	b	c	d	TOTAL OF COLUMNS (b+c+d)	e	ACCUMULATED FROM LAST REPORT	f	CUMULATIVE TOTAL TO DATE (e+f)	g
ASSIGNED ACTIVE ARMY ENLISTED PERSONNEL											
2	AUTHORIZED TO BE SUBSISTED WITHOUT REIMBURSEMENT										
ATTACHED ACTIVE ARMY ENLISTED PERSONNEL											
3	AUTHORIZED TO BE SUBSISTED WITHOUT REIMBURSEMENT										
SECTION B: FIELD RATION REQUEST											
REGULAR MEAL					SHORT ORDER R/BOX LUNCHES						
4	DATE(S) FOR WHICH MEALS ARE ROR										
5	NUMBER OF MEALS REQUESTED										
SECTION C: HEADCOUNT DATA											
6	DATE(S)	a	b	c	d	TOTAL OF COLUMNS (b+c+d)	e	ACCUMULATED FROM LAST REPORT	f	CUMULATIVE TOTAL TO DATE (e+f)	g
NUMBER OF PERSONNEL ACTUALLY SUBSISTED ON WEEKDAYS											
7	HEADCOUNT										
					B						
					L						
					D						
					BR						
					D/BR						
NUMBER OF PERSONNEL ACTUALLY SUBSISTED ON WEEK ENDS/HOLIDAYS											
7a	HEADCOUNT										
					B						
					L						
					D						
					BR						
					D/BR						
8	TOTAL NUMBER OF MEALS FOR WHICH CASH PAYMENT WAS RECEIVED AT DUTY PERSONNEL RATE										
					B						
					L						
					D						
					BR						
					D/BR						
8a	TOTAL NUMBER OF MEALS FOR WHICH CASH PAYMENT WAS RECEIVED AT OTHER AUTHORIZED PERSONNEL RATE										
					B						
					L						
					D						
					BR						
					D/BR						
9	TOTAL NUMBER OF MEALS FOR WHICH PAYMENT WAS ACCOMPLISHED BY PAYROLL DEDUCTION										
					B						
					L						
					D						
					BR						
					D/BR						

DA FORM 2970, 1 JAN 77

EDITION OF 1 JUN 75 IS OBSOLETE

# CHAPTER 6

In an active theater of operations, things are done a little differently. You request rations on a meal basis, so estimate the number of people you will feed for each meal. Request the number of breakfasts, lunches, and dinners you need by the type of ration desired (for example, B ration or MCI) from the theater menu. You may need to request more than one type ration for each meal, depending on the combat situation and what your commander wants. You may do this on DA Form 2058-R (Ration Request for Theaters of Operations) or in any other convenient way. When you get the rations, you sign for them on DA Form 3294-R (Field Ration Issue Slip). For details see FM 10-24 and FM 10-60.

DA Form 2058-R is a ration request form. It includes fields for TO, FROM, and DATE. The form is divided into two main sections: Section I: Regular Rations and Section II: Theater Issue Rations. Section I includes a Theater Menu with items like Baking powder, Catnip, Cheese, Cinnamon, Cloves, Crackers, Vanilla, Cinnamon, Garlic, Mustard, Onions, Pepper, Salt, Sauce for meat, Starch, Tea, instant, Tea, bags, Vinegar, Worcestershire, and Soup and gravy. Section II includes items like Meal, Combat, Indiv, Long-Range Patrol Pkt, Aid Station Ration Sup, Sundries Pack Ration Sup, and Other. The form also includes a 'Delete following' section and a signature line.

DA Form 3294-R is a field ration issue slip. It includes fields for FIELD RATION ISSUE SLIP (Including Short Order), INSTALLATION, ORGANIZATION, and ISSUE DATE. The form is divided into two main sections: CONSUMPTION DATE and NUMBER OF MEALS REQUESTED. The CONSUMPTION DATE section includes a table with columns for ITEM, UNIT, ALLOW, and TOTAL. The NUMBER OF MEALS REQUESTED section includes a table with columns for B, L, D, S/O, and TOTAL. The form also includes a signature line and a GRAND TOTAL field.

DA FORM 3294-R, 1 AUG 78

REPLACES DA FORM 3294, 1 DEC 72, WHICH IS OBSOLETE.





## MEET WITH YOUR PEOPLE

Have a daily meeting with your people to talk over field kitchen operations. The best time to meet is usually after the lunch meal. At this meeting, review the past 24 hours of operation and plan for the next 24 hours. Discuss menus, preparing and serving food, schedules, safety, and ways to improve operations. This is also the time to iron out any problems and talk over anything that is unusual or an exception to the SOP. Get all your staff to come to this daily meeting.



# NOTES





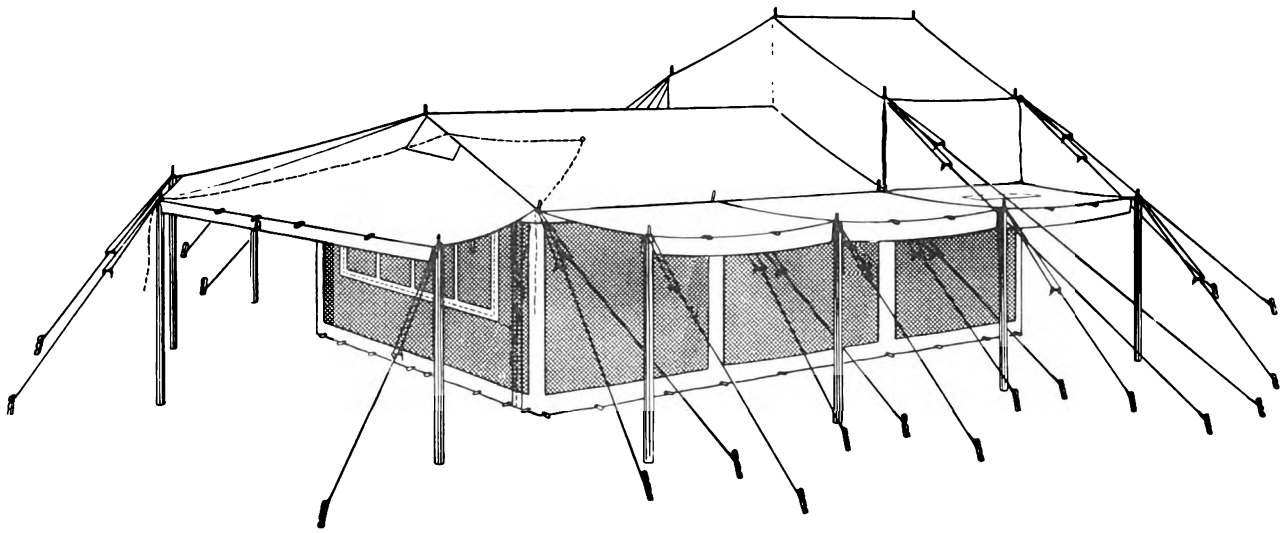
# CHAPTER 7

## YOUR OPERATIONS AREA

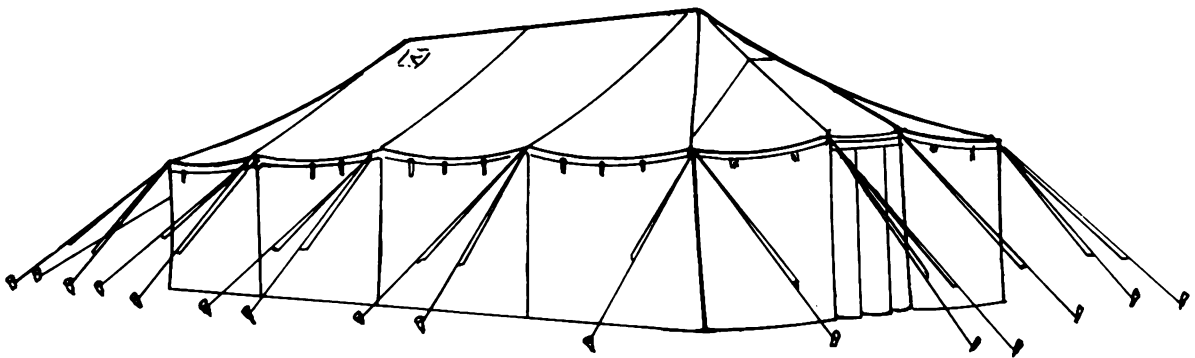
### SITE SELECTION

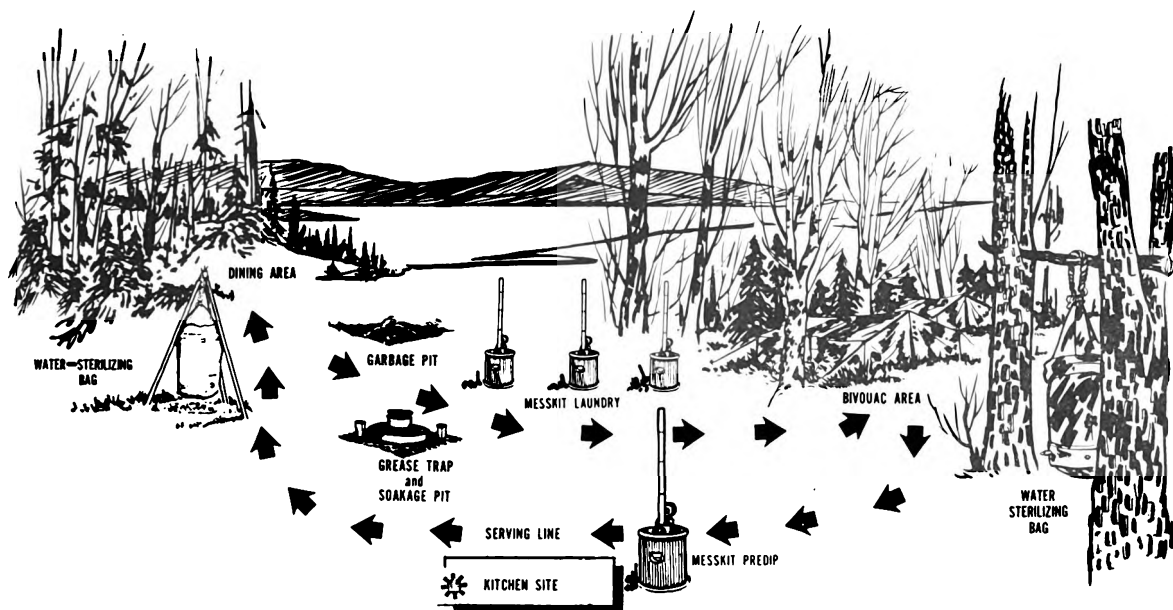
Naturally you will want the best available site for your field kitchen. The CO or his liaison will tell you the general location. The best site for it is in or near a building in a built-up area. If this isn't possible, you'll still want to have a site with as many good features as possible. So keep in mind:

Good Natural Cover	to shield troops from the enemy and to protect them from sun, heat, and cold winds
Good Access Roads	to let trucks bringing supplies move freely
High and Dry Ground Near a Protected Slope	to make sure there's good drainage and to protect you from the wind
Enough Space	to keep from crowding the troops and to let you spread out your equipment so you can work efficiently
Natural Water Source	to purify your own water if you must
Sandy Loam or Gravelly Soil	to let excess water seep away and to help soakage pits and trenches work well



Once the field kitchen site is picked, lay it out for operations. When you aren't issued a mobile field kitchen, you'll get a kitchen tent or GP medium tent.

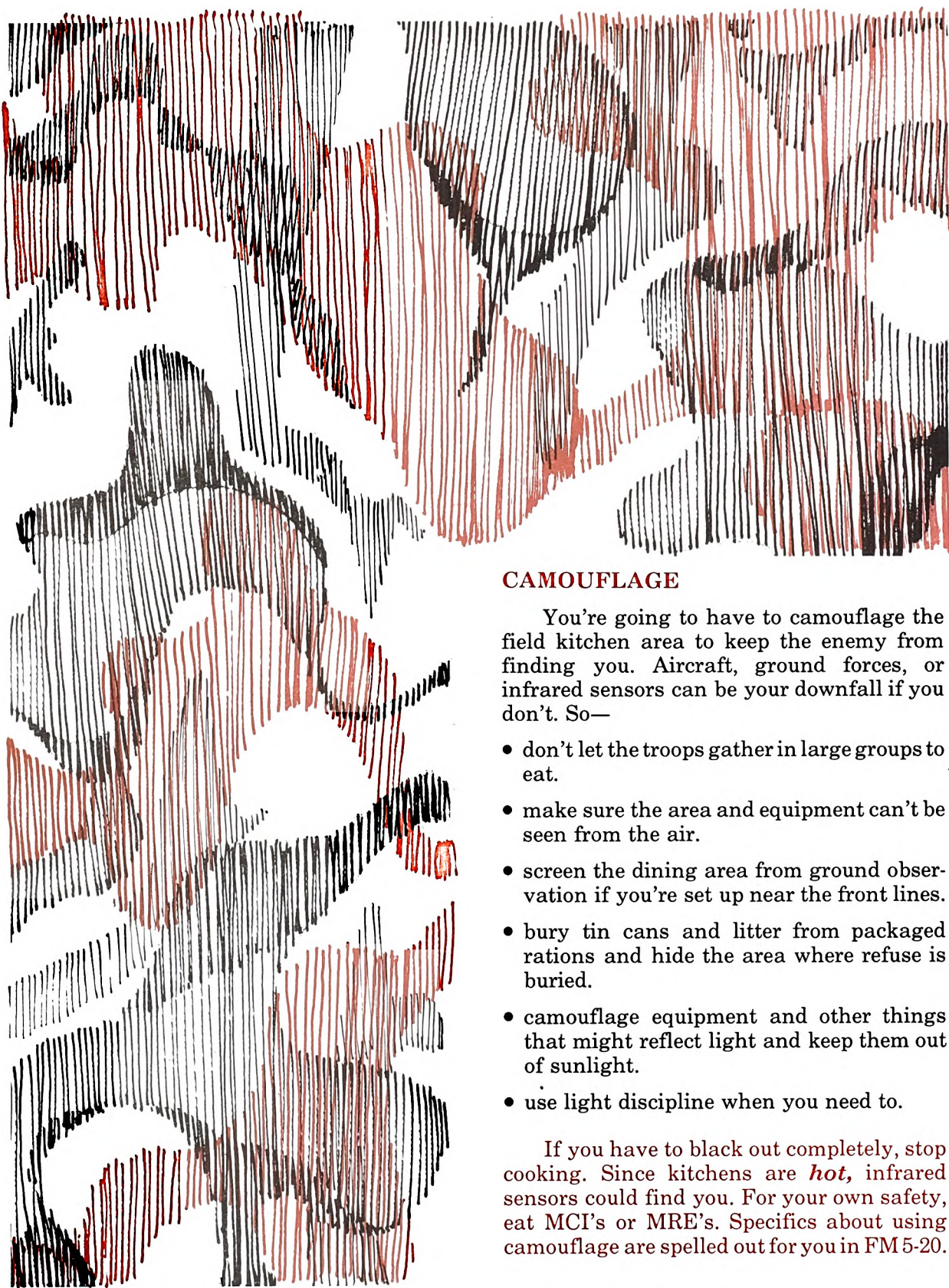




## LAYOUT

This picture is a suggested layout for a field kitchen site. It shows you where to place waste disposal facilities. It shows a smooth traffic flow through the serving line and messkit laundry line so that the troops can get away from the area easily if they must move fast. It also shows water-sterilizing bags. If you are authorized one bag, put it in the bivouac area. If you get more than one, put one in the dining area and the others in the bivouac area. Your people aren't detailed to build latrines, but make sure any latrines are at least 90 meters (100 yards) downhill from the kitchen trailer or tent.





### CAMOUFLAGE

You're going to have to camouflage the field kitchen area to keep the enemy from finding you. Aircraft, ground forces, or infrared sensors can be your downfall if you don't. So—

- don't let the troops gather in large groups to eat.
- make sure the area and equipment can't be seen from the air.
- screen the dining area from ground observation if you're set up near the front lines.
- bury tin cans and litter from packaged rations and hide the area where refuse is buried.
- camouflage equipment and other things that might reflect light and keep them out of sunlight.
- use light discipline when you need to.

If you have to black out completely, stop cooking. Since kitchens are *hot*, infrared sensors could find you. For your own safety, eat MCI's or MRE's. Specifics about using camouflage are spelled out for you in FM 5-20.



# NOTES



*The field kitchen—it's wherever you're preparing food for troops in the field. You can be in a building, a tent, or a mobile field kitchen. You operate the field kitchen with the field kitchen equipment listed in the unit TOE.*

## CHAPTER 8

# THE FIELD KITCHEN

### BUILDINGS

You can use a building for the field kitchen if it meets your safety needs. Make sure it has a concrete floor, and make sure you can vent fumes to the outside. If the building doesn't have both these features, don't use it.



### KITCHEN TENTS

You can use one of two tents for the field kitchen—the M1948 kitchen tent or the general-purpose tent. Set up the tent on level ground and use as much natural camouflage as you can. Make sure you leave at least a foot of space between the field ranges and the tent wall. You can use old crates and scrap boards to lay a floor in the tent but do *not* use them under the field ranges.



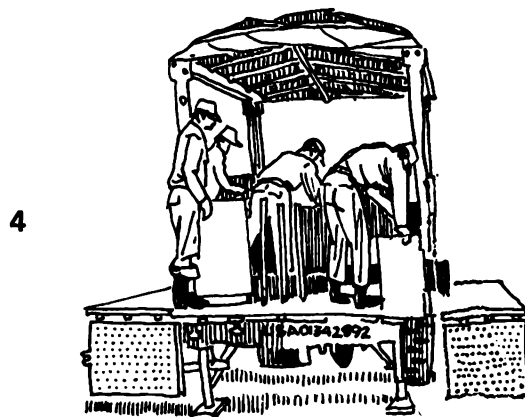
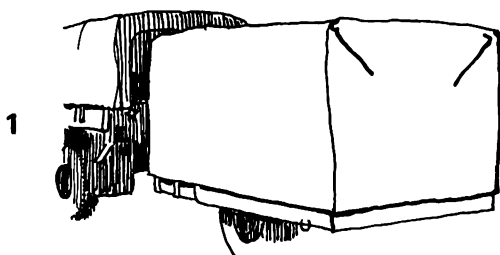
**CAUTION.** *Never put a wooden floor under the M59 field range.*

Place the equipment inside the kitchen tent to suit your needs.

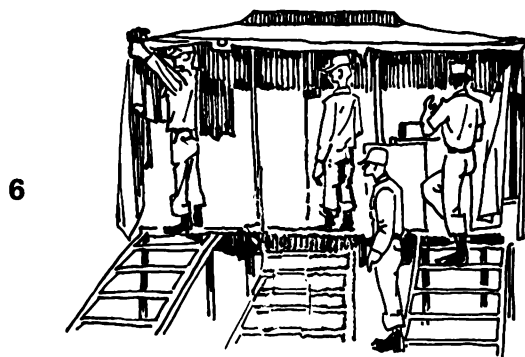
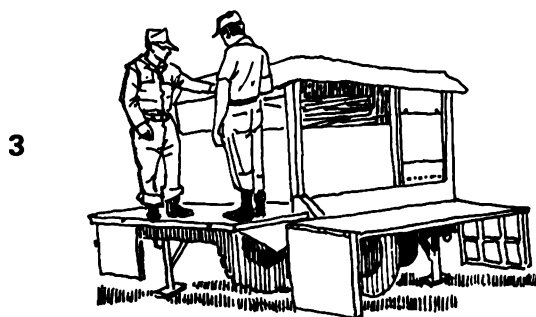
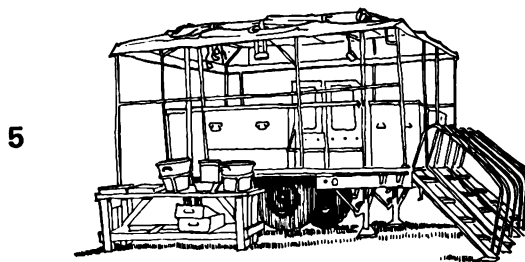
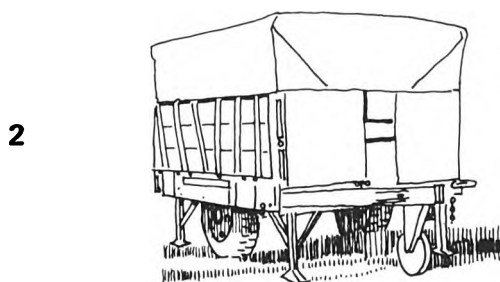


## THE MOBILE FIELD KITCHEN (MKT-75)

The mobile field kitchen (MKT-75) is new to field feeding operations. It is mounted on a standard 1½-ton trailer chassis. A 2½-ton truck pulls it (closed up) for road or cross-country moves. A helicopter or cargo aircraft can also move it.

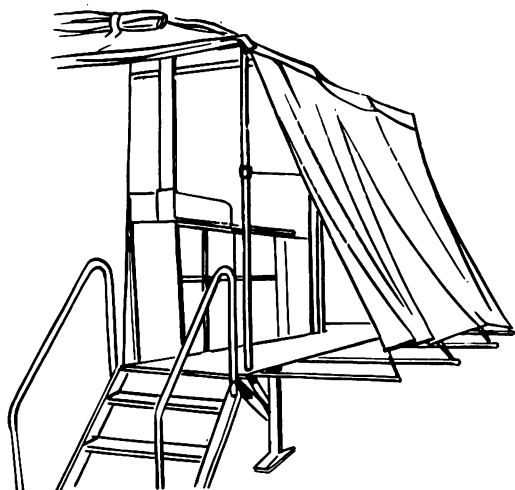
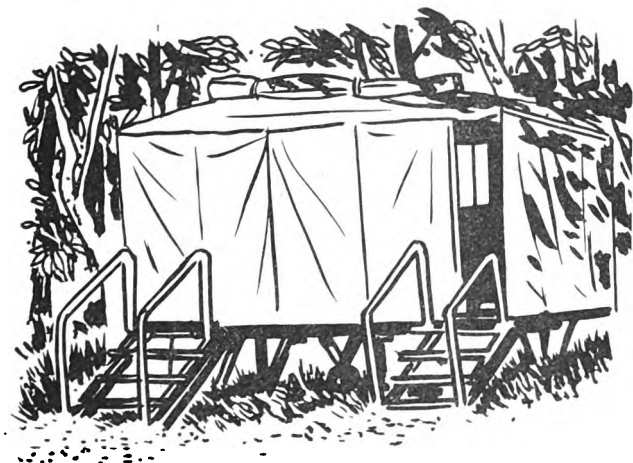
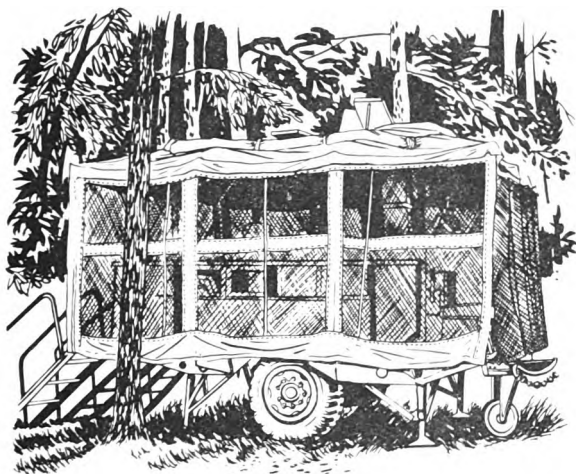


Four trained people can set up the mobile field kitchen in about 20 to 30 minutes.

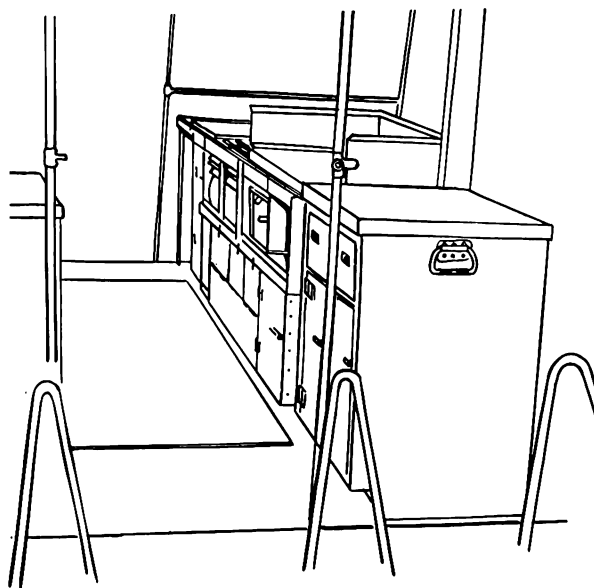
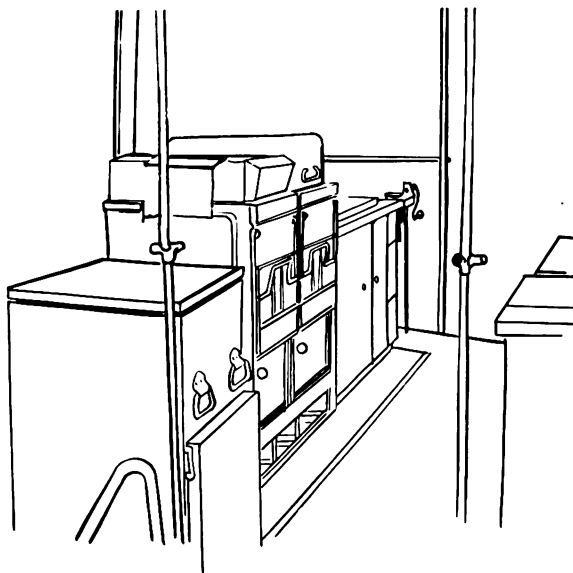




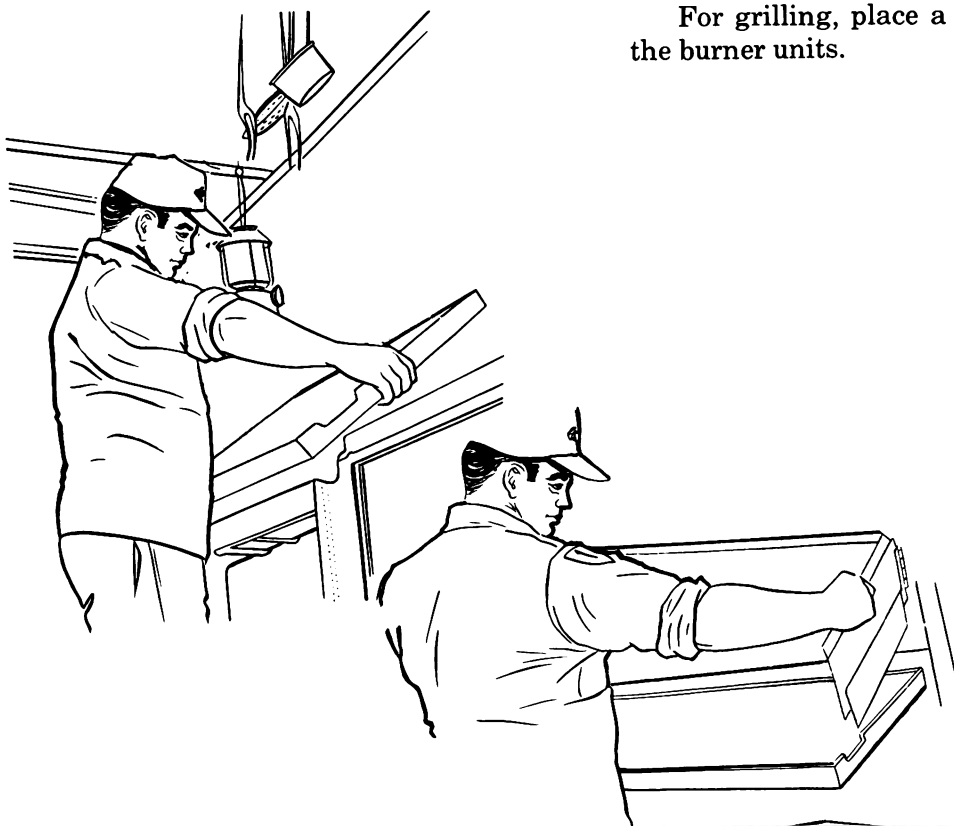
There are different ways to place the side flaps, depending on the weather.



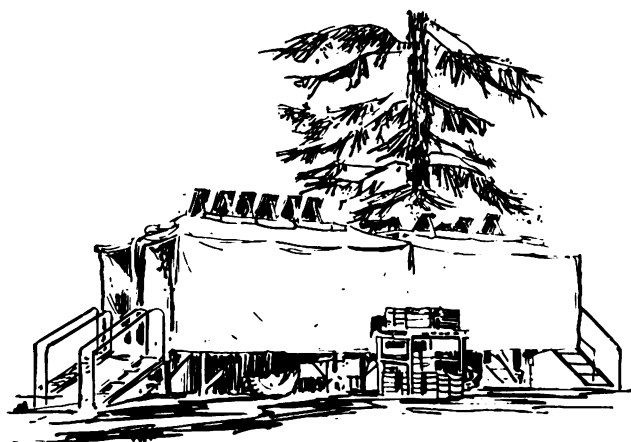
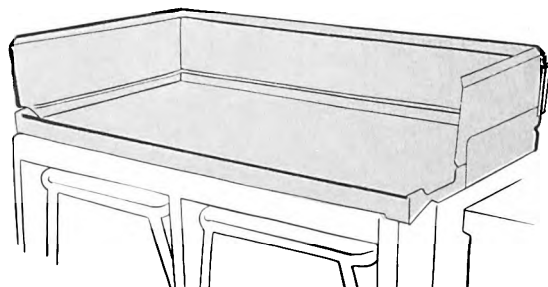
On the MKT you use two field range cabinets and six M2 burner units. Set four of the burner units in the frameworks made for rangetop cooking. Put the other two in the M59 field range cabinets. Place the movable storage cabinets where you need them. Storage cabinets made to fit standard pans get rid of wasted space. Cabinet tops double as work and serving counters.



For grilling, place a griddle over two of the burner units.



You can do any kind of dining facility cooking, except broiling, in the MKT.



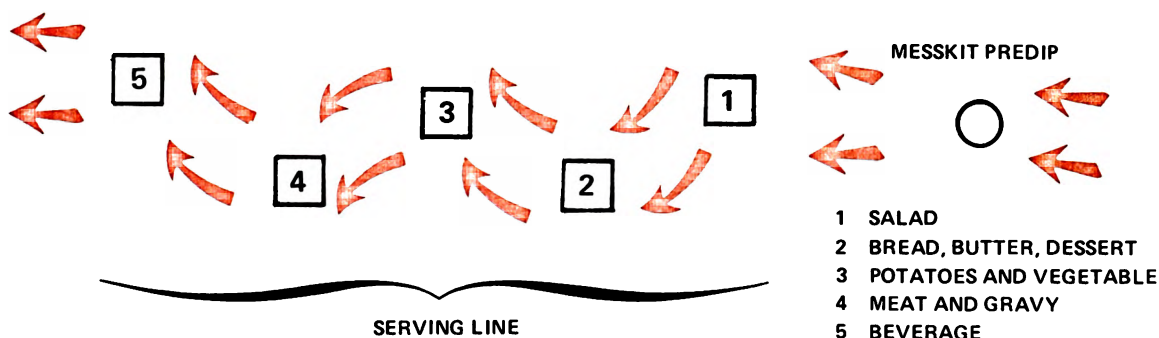
Using procedures in the TM, you can join two MKT's. This setup increases your feeding capacity and will probably be used for consolidated feeding.

For the details on the MKT, see TM 10-7360-206-13.

## SERVING

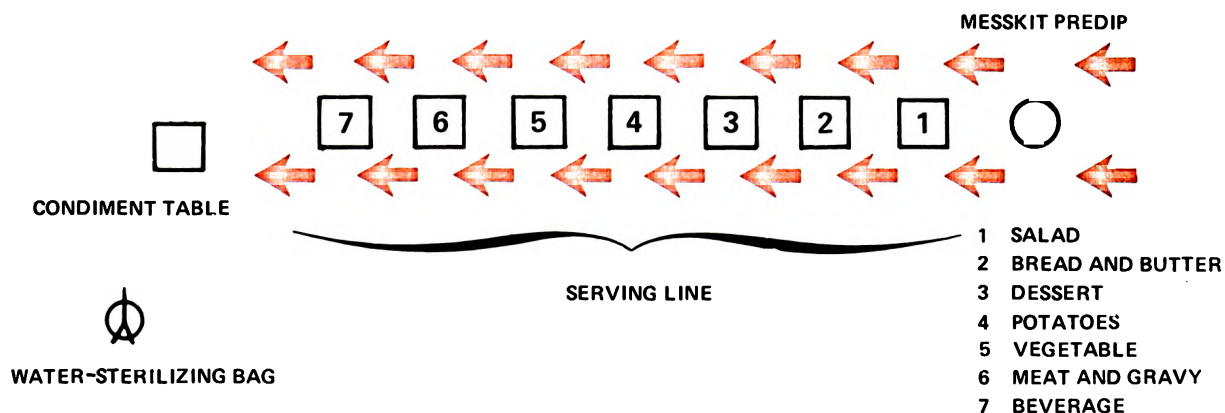
After you have prepared the food, it needs to be served as soon as possible. Do this as smoothly and quickly as you can.

For on-site feeding at a field kitchen in a tactical situation, set up a one-way, staggered serving line:



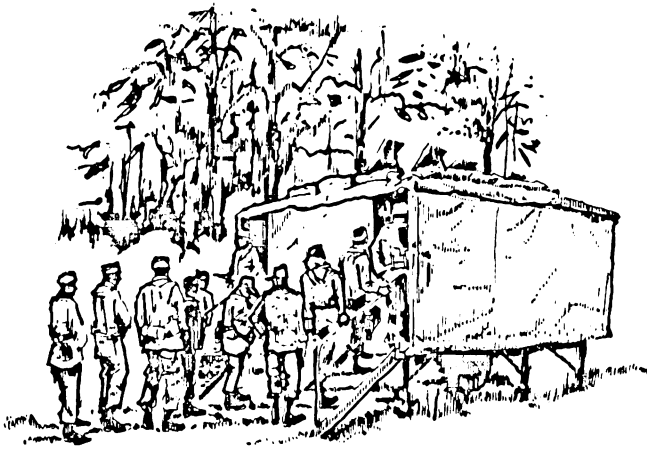
For on-site feeding at a field kitchen in a nontactical area, set up a one-way, straight serving line:

## DINING AREA



When you are using an MKT, set up the serving line inside. You may serve cold foods on one side of the trailer and hot foods on the other side. The trailer may be entered from either end, but traffic should still be one way.

For serving in a nontactical area, a U-shaped serving line works best.



In a tactical area, use two serving lines—one on each side of the trailer. Troops pass through at 5 meter (17 feet) intervals. This reduces the time needed for serving a meal.



Once the troops are served, they spread out to reduce the chance of casualties in case of enemy attack.

Under the consolidated feeding concept, prepared foods will be put into insulated food containers (see chapter 10). Those containers needed to feed on-site personnel will stay; the rest will be sent forward.

When there is intense combat for short periods of time, you won't serve hot meals in the combat area. Instead, serve the troops

MCI's or MRE's. However, as combat conditions allow, and when you have the rations and equipment, serve the troops at least one hot meal a day.

## CONSOLIDATED FEEDING

You'll be preparing food in the field kitchen to serve to troops right there at the same site or to take to them at other locations. You may be preparing meals for more than one unit; this is called consolidated feeding.

Your food service people will prepare a meal and put it in insulated food containers at the field kitchen site. (When only one hot meal a day is being prepared, it will most likely be dinner. If two hot meals a day are being prepared, they will be breakfast and dinner.) Then your food service people truck the food out to a staging site. At this site they are met by people representing the units to be fed. Your people give the food containers to the unit reps and collect from them food containers that were used for the previous meal. At the same time, your food service people give the unit reps MCI's or MRE's that will last until this meeting takes place again.

### One Hot Meal a Day

If you're trucking out one hot meal a day, you'll take along enough MCI's or MRE's to feed the troops until you take them a hot meal the next day. In other words, two meals of MCI's or MRE's.

### Two Hot Meals a Day

If you're trucking out two hot meals a day, you'll take one meal of MCI's or MRE's along at the breakfast meal to feed the troops until you bring the next hot meal at dinner. The MCI's or MRE's will be the lunch meal.

To help this daily exchange go smoothly, you'll need two sets of insulated food containers. One set of containers will be with your field kitchen and one set will be given to the units you serve.



# NOTES

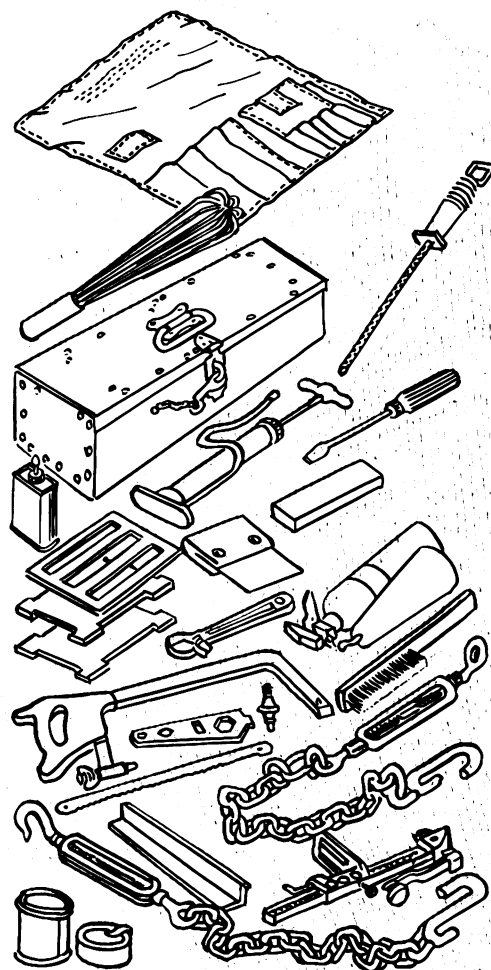
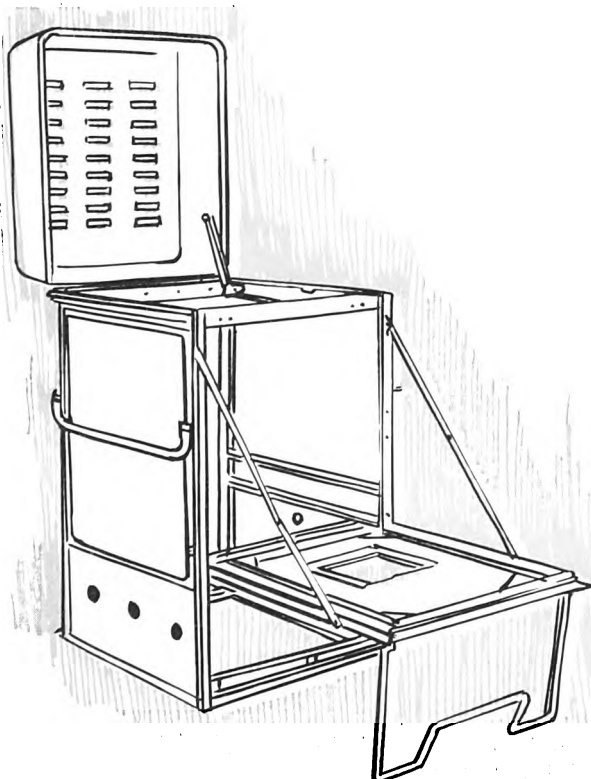


## CHAPTER 9

### THE M59 FIELD RANGE

#### FIELD RANGE OUTFIT AND ACCESSORIES

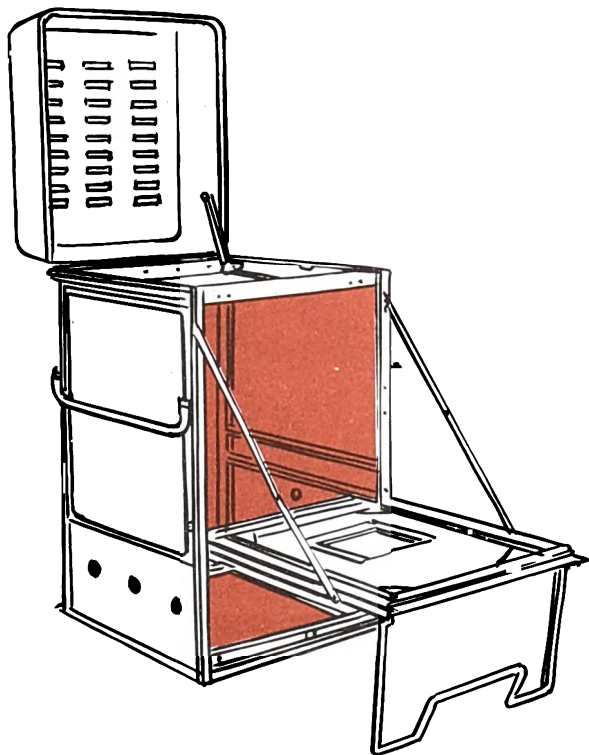
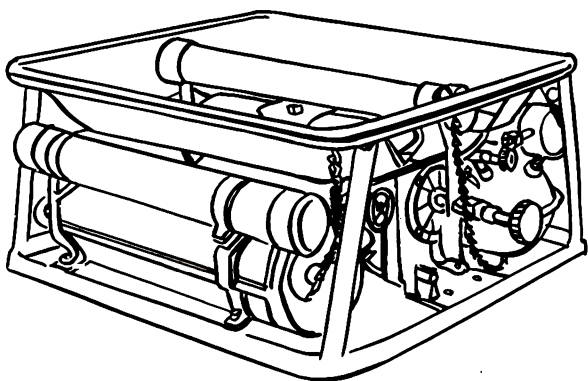
The M59 range is portable and can be adapted to the different cooking jobs you'll find in field operations. You can use one field range outfit as a single unit to cook for up to 50 people, or you can use a group of ranges to cook for more than 50 people. Each range comes with pots, pans, and cooking and serving utensils. An accessory outfit comes with the range (one for every one to four ranges you have).



The accessory outfit has tools, a tool box, tiedown chains, and other items such as a can opener, egg whip, and fire extinguisher. TM 10-7360-204-13 has more information about the field range and accessory outfit.

## M2 BURNER UNIT

The M2 burner unit is the heat source for the M59 range. New models of the burner unit have one U-shaped tank. Older models have two tanks. You can use the burner unit in either the top or bottom position of the range. For more information and operating instructions on the burner unit, see TM 10-7360-204-13.



### Helpful Hints:

- Make a firm, level, and well-drained foundation for the range, free of burnable material.

- Before you fill the fuel tank, make sure it is at least 15 meters (50 feet) from any open flame. The gasoline storage area should also be 15 meters from the kitchen tent or MKT.

- **Never** fill the tank while the flame is burning or when the burner is hot.



- Wipe up spilled fuel. Vapors from spilled fuel can catch fire or explode if they come in contact with the burner flame or heat from a hot burner.

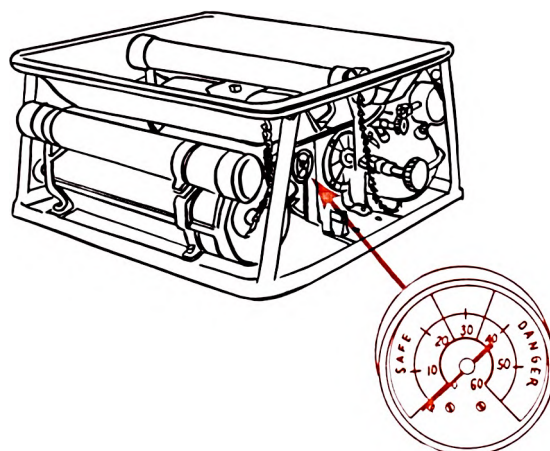


- If a fire starts while you're using the M2 burner unit, try to

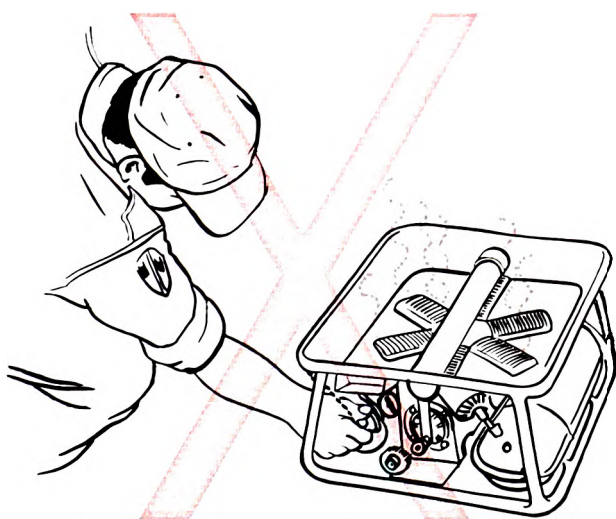
- close the flame valve,
- pull the burner unit from the range cabinet,
- and use a fire extinguisher to put out the fire.

- After the fire is out, remove the burner unit from the kitchen; after the unit cools, let out the air pressure from the fuel tank by loosening the fuel tank fillercap.

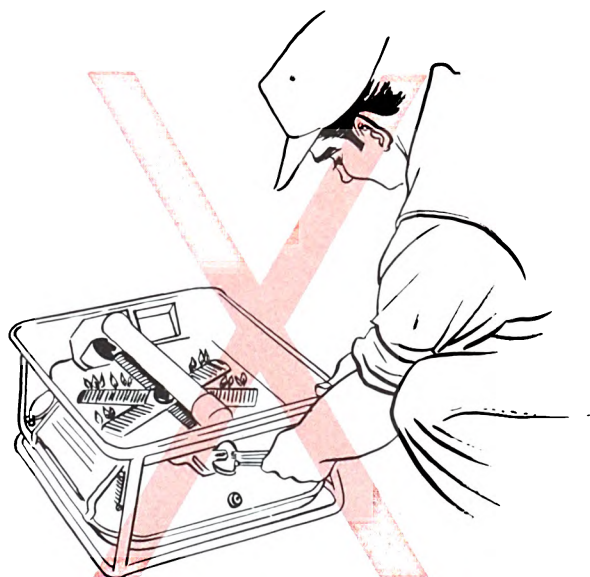
- If you can't put the fire out following the above steps, use a fire extinguisher to put the fire out while the burner unit is still in the field range.



- **Do not** operate the burner unit when the pressure gage reaches or exceeds 25 pounds per square inch (psi).



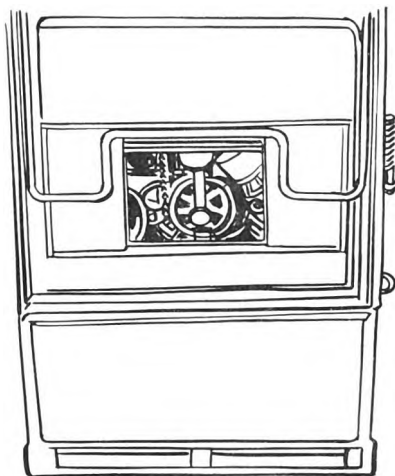
- **Never** release the fuel tank pressure until the burner unit has cooled, as escaping gasoline vapor will ignite.



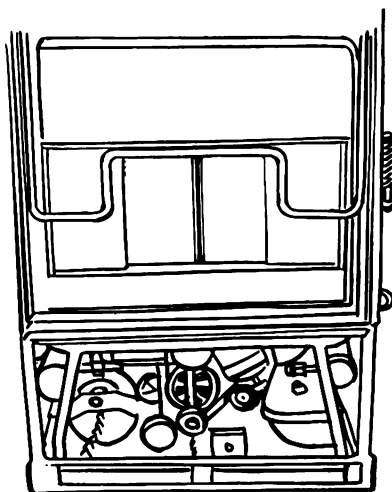
- **Do not** tighten joints while the burner unit is in operation.

## USING THE M59 FIELD RANGE

You can use the M59 field range to bake, roast, boil, grill, and deep-fat fry by putting the burner unit in the correct position. You can use the burner unit in either the top or bottom position.



When you use the burner unit in the top position, open the slide shutters on the range cabinet.

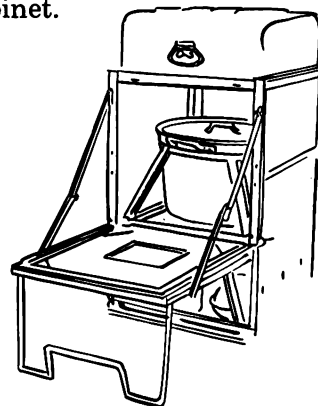


When you use the burner unit in the bottom position, close the slide shutters on the range cabinet.

When you are going to bake or roast, use an oven thermometer to preheat the oven or roasting pan to the right temperature for what you are preparing.

## To Roast:

Put the burner unit in either the top or bottom position. Place roasts in the baking and roasting pan on the top of the range. Cover the pan if you're cooking the roasts by the moist-heat method. Close the door and lid of the range cabinet.



## To Boil:

Put the burner unit in the bottom position. Use either the 40- or 60-quart cooking pot. Attach the splash plate and cover it. Place the cooking pot in the cooking pot cradle and put it all in the cabinet of the range. Close the door and lid of the range cabinet. When you need a double boiler, put 21 liters (22 quarts) of water in the 60-quart pot. Place the pot in the cradle. Put a 40-quart pot in the 60-quart pot and then cover the 40-quart pot.



## To Bake:

A baking rack set made up of three racks comes with the field range as part of the accessory outfit. When the rack set is in place, place the burner unit in the bottom position.



You can bake field bread, biscuits, cobbler, or cookies using the rack set. Place a pan on each shelf. During the baking time, be sure to rotate the pans 3 times. If you don't have a baking rack set, follow these steps for preparing cakes, biscuits, and cobbler:

**Cakes.** Place the burner unit in the bottom position. Put the empty baking and roasting pan on the top of the range and place the cake pan in the baking pan. (The five indentations in the bottom of the baking pan let the heat flow evenly around the cake pans.) Close the door and lid of the range cabinet.



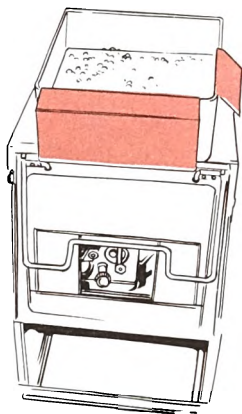
**Biscuits and cobbler.** You can bake biscuits and cobbler with the burner unit in either the top or bottom position.



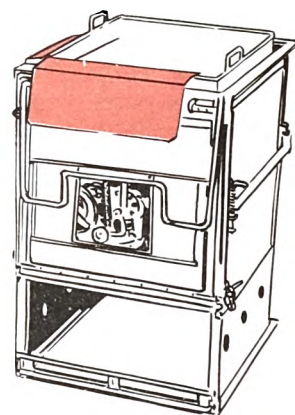
- **Top position**—Place an empty baking and roasting pan on top of the range. Preheat to the desired temperature. Put a baking pan of biscuits or cobbler in the empty baking and roasting pan. Close the door and lid of the range cabinet.



- **Bottom position**—Open the cabinet lid and place the baking and roasting pan on top of the range. Preheat before placing product inside. Close the door and lid of the range cabinet.



**CAUTION:** *The arm protectors get hot and they can burn you if you lean against them.*



### To Deep-Fat Fry:

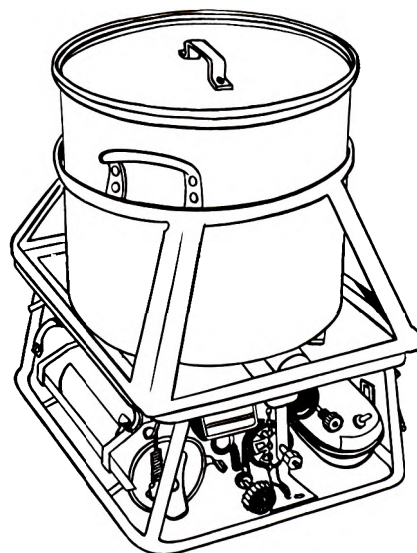
Place the burner unit in the top position and close the cabinet door. Put the baking and roasting pan on top of the range. Fit the long arm protector over the front side of the cabinet and edges of the pan. Fill the pan one-third to one-half full of shortening. Heat it and use a thermometer to check the right temperature for what you are frying. Or drop a bread cube into the hot shortening. If it browns in 20 seconds, the shortening is hot enough to use. After frying the food, use the skimmer to remove it from the pan.

### To Grill:

Put the burner unit in the top position and close the cabinet door. Turn the cover of the baking and roasting pan upside down and fit it onto the griddle supports. Fit the long arm protector over the front edge of the griddle and cabinet. Fit the short arm protector over the side edge of the griddle and cabinet where you are working. If you need to, grease the griddle lightly. (The MKT has its own special griddle which is placed over two burner units. See chapter 8.)

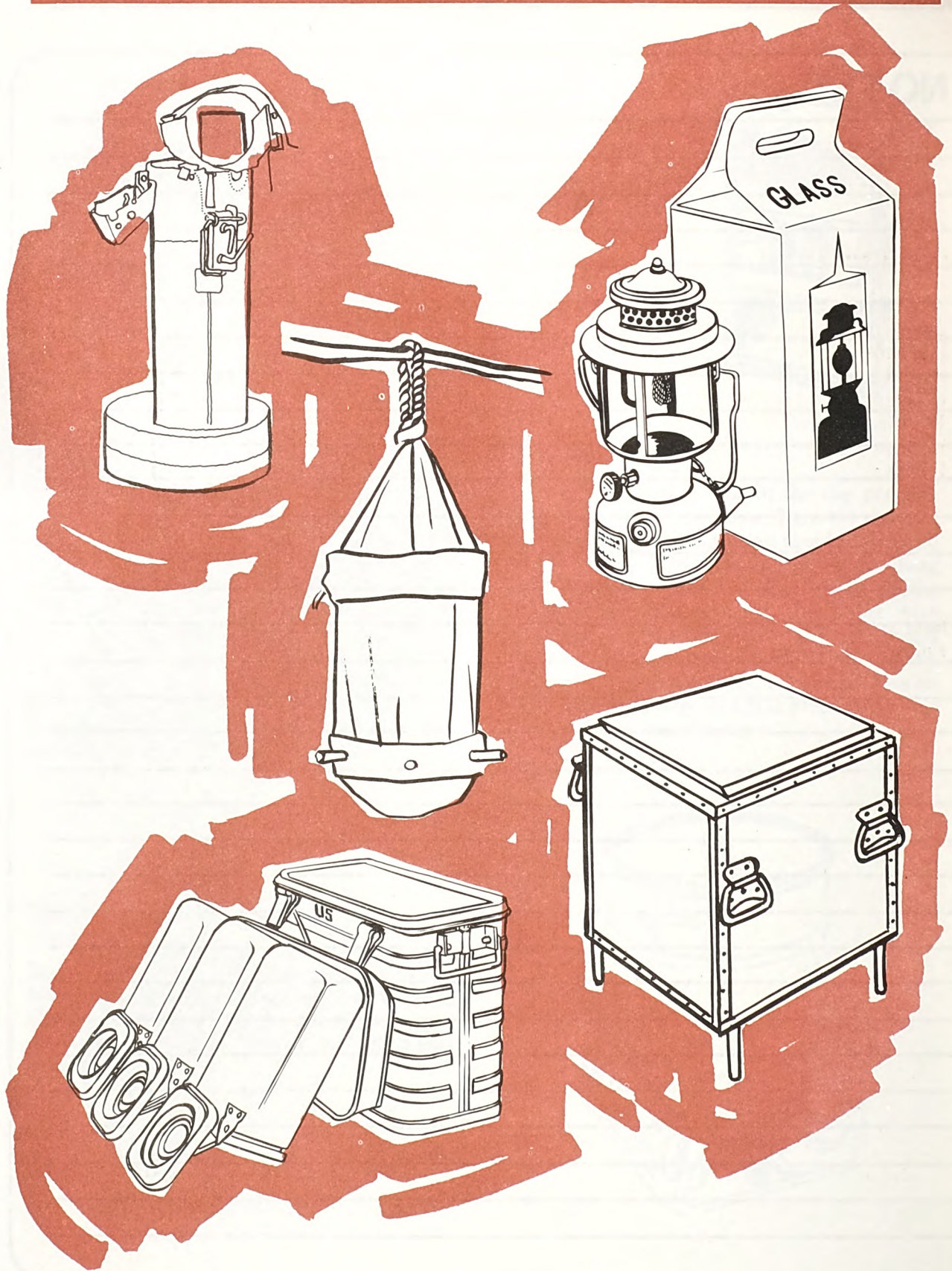
### To Use the Burner Unit Alone:

In an emergency, you can cook on the M2 burner unit alone. Take the unit out of the range and put it on well-cleared, level ground. Use a pot cradle to keep the bottom of the pot above the generator of the burner unit. **THIS IS A MUST.**





# NOTES



## CHAPTER 10

### OTHER EQUIPMENT

#### INSULATED FOOD CONTAINER

To keep hot foods hot and cold foods cold, use insulated food containers. Each container has three aluminum inserts with tight fitting covers. You fill the insert to its usable capacity which is 5 1/3 liters (5 2/3 quarts). Put inserts of hot food and inserts of cold food in separate containers. Also, never use the insulated food container without the inserts.



**Heating and filling.** Before you put hot food in the container, heat the container. Follow these steps:



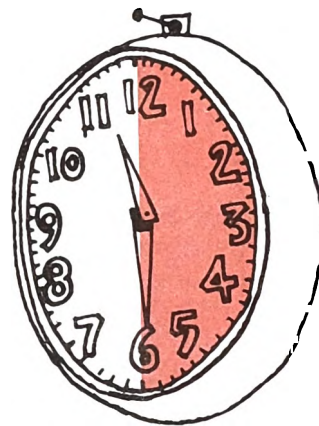
**1 Remove the inserts.**



**2 Pour 2 liters (2 quarts) of boiling water into the container.**



**3** Replace the inserts.



**5** Let stand for at least 30 minutes.



**4** Close the container lid and secure the latches diagonally.



**6** Remove the inserts.





- 7 Put hot food in the insert and replace the insert cover.**



- 9 Close and fasten container lid by securing latches diagonally.**



- 8 Place the filled inserts in the container.**



Food should stay warm for at least 3 to 5 hours.

**Chilling and filling.** If you need to chill a container before you put cold food in it, follow these steps:



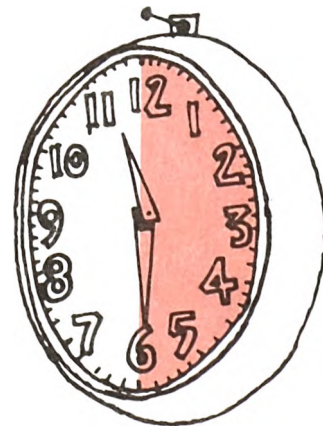
**1 Remove the inserts.**



**3 Close the container lid and secure the latches diagonally.**



**2 Put crushed ice or 2 quarts of ice water in the container.**



**4 Let it stand for 30 minutes.**



- 5 Dump ice from the container.**



- 7 Place the filled inserts in the container.**



- 6 Put food in the insert and fasten the lids.**



- 8 Close and fasten container lid by securing latches diagonally.**

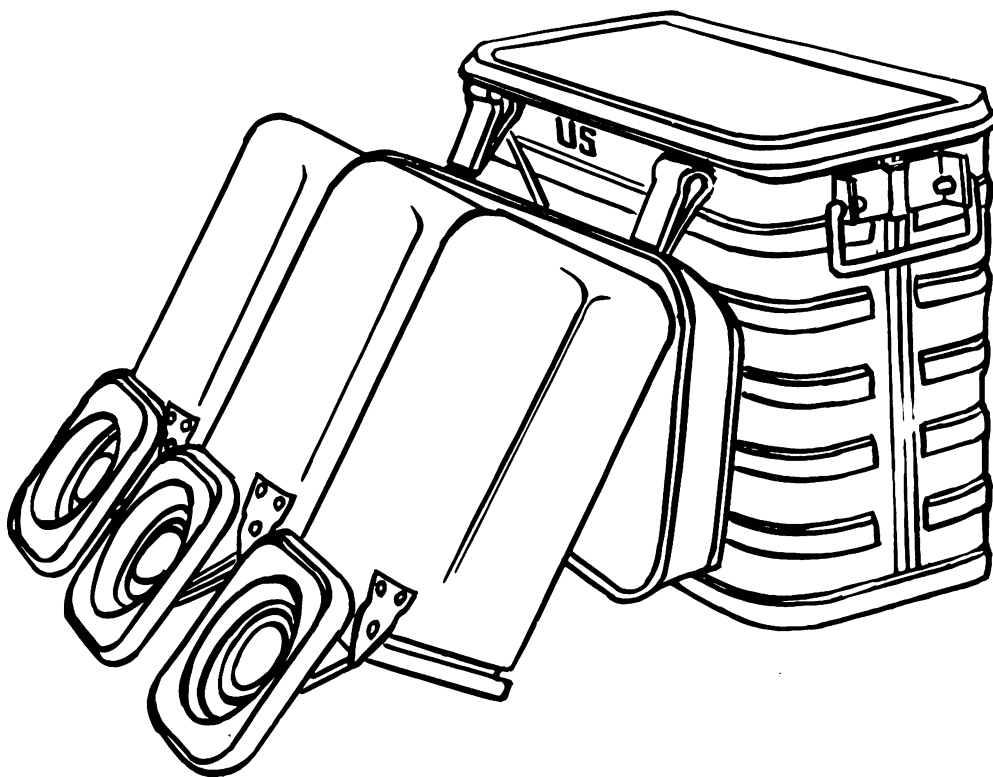
When the insulated food container is properly chilled, it will keep food at a serving temperature below 7° C (45° F) for at least 3 to 4 hours.

**Label your meal.** Label each food container after you fill it. You can make a good label by placing a strip of masking tape across the top of the container lid and writing on the strip the menu item and number of servings.

**Getting the food out.** You can serve food from the container at the site where you prepare it, or you can carry food in the container to other sites to serve it. If you're trucking the food out, your job will be easier if you use a code letter or code color to identify each site. To make sure the menu is the same for each site, show the menu items, number of servings, and the site code on each

container label. For small unit feeding, put an insert of meat, an insert of starch food, and an insert of vegetables in one insulated food container.

**Cleaning the container.** Clean the insulated food container and the inserts before and after every use. Remove the inserts and gaskets and wash them in hot hand dishwashing compound solution. (Never immerse the food container in water). Then rinse the parts in boiling water. After you've washed the gaskets from the food container, put them back on the container with the flat sides down and let them dry that way. Place the gaskets for the insert covers back on the insert covers and let them dry. Don't hang rubber gaskets or set them in the sun to dry. If you care for the rubber gaskets in the right way, they won't warp or lose their shape.







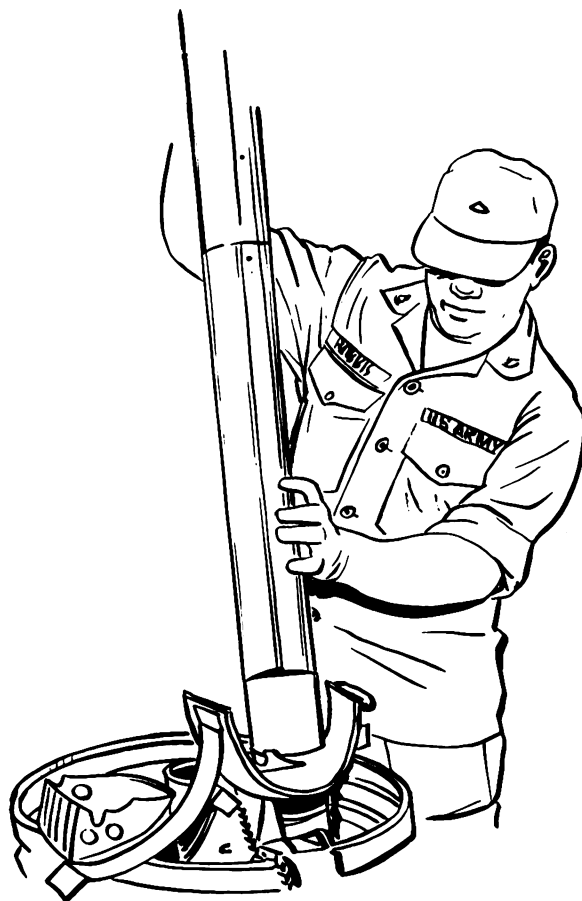
### WATER-STERILIZING BAG

Water-sterilizing bags are your source of treated drinking water at field kitchens. You get one of these 36-gallon canvas bags for each 100 people at the field kitchen. Treated water to fill the bags is brought to the area in water trailers, tank trucks, or water cans.

Hang the bag from a tree limb or a horizontal pole. Make a small soakage pit under the bag to help excess water drain away. More information about the care and use of the water-sterilizing bag and the right ways to purify water is in FM 21-10.

### IMMERSION HEATER FOR CORRUGATED CANS

In the field, you heat water for kitchen cleanup operations with liquid-fuel fired immersion heaters. You attach an immersion heater to a corrugated can at the seam of the can. You also attach four 2-foot pieces of air conditioning/heating pipe to the collar of each immersion heater. Make sure you line up all the air conditioning/heating pipe seams so that they face to the rear, away from where the operator will stand. An instruction plate on the hinged burner hood covers the top of the burner compartment.

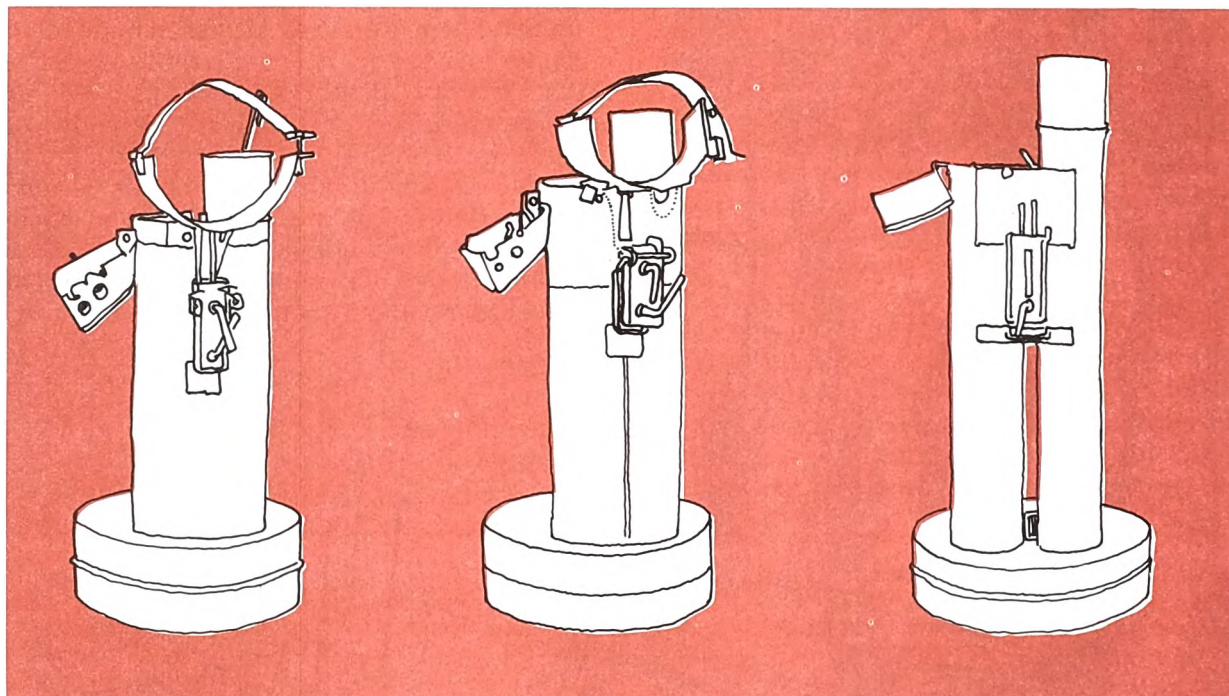


There are three models:

NSN 4540-00-266-6835 (standard model)

NSN 4540-00-453-9146 (preway model)

NSN 4540-00-469-6593 (model M67)

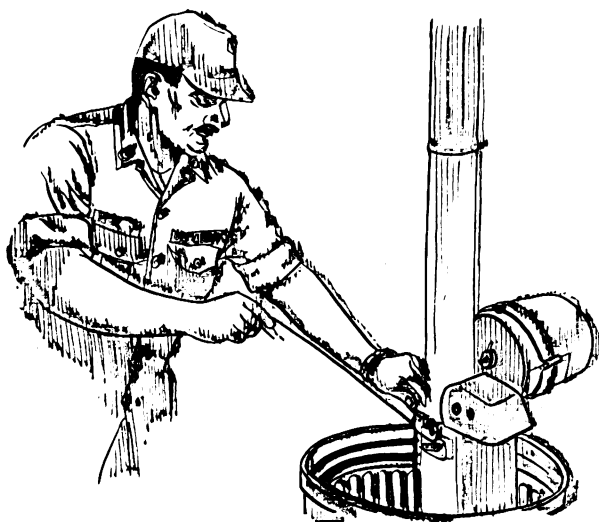


The heater models look a lot alike. The main difference is how you preheat and light each heater. Be sure you know which heater you are working with. TM 5-4540-202-12 and TM 10-4500-200-13 tell more about the heaters and how to light them.

### Helpful Hints:

- Keep a fire extinguisher close to the equipment.
- Pick a site for the corrugated can that is level and as sheltered as possible.
- Pipe the exhaust fumes outside if you operate the heater in a closed place.
- Wipe up all spilled fuel and be sure that the valve end of the fuel tank is dry and free of fuel.
- Before lighting the burner, be sure there is no fuel in the combustion chamber of the heater.
- Fill the corrugated can with water to 16 centimeters (6 inches) below the collar assembly of the heater. **Don't** operate an immersion heater unless the water level is at least 8 centimeters (3 inches) above the top of the combustion chamber.
- **Never** hold lighter torches under the fuel valve to wet them with fuel.

- Keep your face away from the heater when lighting the burner.



## ICE STORAGE CHEST

You can use an ice storage chest in the field kitchen to store block ice to add to drinks. You may also have to store perishables in the ice chest for short periods of time (up to 24 hours) when you don't have refrigerators. When you store block ice and perishables in the chest you need enough ice to keep the temperature below 10° C (50° F). Potable ice that's been used to chill perishables shouldn't be used in a drink, except in emergencies. If you must, make sure you pack the perishables in clean, moisture-proof wrappers so they don't contaminate the ice. Also, rinse the ice with potable water before you add it to drinks.

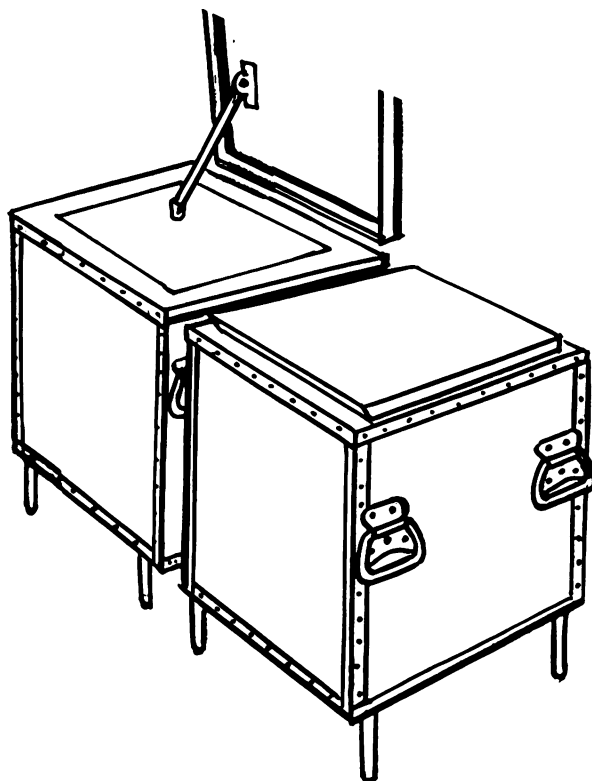
- Adjust the flow from the fuel valve to a fast drip. Never let fuel flow in a stream. Be sure that the heater is level so that fuel drops hit the center of the vaporizer plate.

- Use either leaded or white gas in the heater. They burn cleaner and cause less smoke than other liquid fuels. Smoke may give away your position to the enemy.

- Make sure there is a burner assembly in the burner compartment before you try to light it.

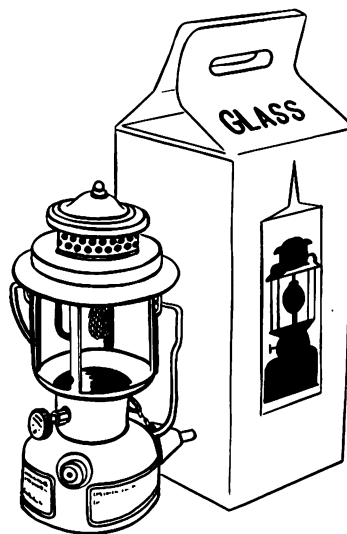
- If the fuel tank cradle, strap assembly, or hanger is defective, keep the heater level by putting a clean brick or block of wood between the front of the combustion chamber and the inside wall of the can at the bottom.

- **Don't** solder any part of the heater. (Your supporting maintenance people do any needed soldering.)



## GASOLINE LANTERN

Your source of artificial light for the field kitchen is the gasoline lantern (NSN 6260-00-170-0430). It is a one-mantle lantern and holds 1½-pints of gasoline. The lantern can stay lit for 8-10 hours on a full tank. You carry or hang the lantern by the bail. Keep safety in mind when working with the lantern: it can cause burns or fires. TC 10-1 tells you all the parts of the lantern, how to operate it, and how to keep it in good working order.



### Helpful Hints:

- When not in use, always put the lantern back in its container and keep it upright.



- Don't jar the lantern; cushion it in some kind of soft material when you pack it up.
- Keep a good gasket in the fillercap for a tight seal.
- Keep the lantern away from anything that will burn.
- Make sure there is good ventilation when you use the lantern.



# NOTES



## CHAPTER 11

# SANITATION

*Food service sanitation requires that certain standards be met for personal hygiene, cleaning and maintaining equipment, dishwashing, field kitchen sanitation, waste disposal, and the inspection, storage, and handling of food. It is up to you to see that the standards are met.*

*Field sanitation facilities are limited. Because of this, you must make*

*sure that you follow the rules on sanitation. All field kitchen people must make sure that food, utensils, and equipment do not get germs on them and become unfit to use. When you serve food, keep it covered until you put it in the messkit. Storage considerations, insect and rodent control, purity of water supplies, and other sanitation considerations peculiar to field operations are covered in FM 21-10.*

### PERSONAL HYGIENE

The safety of food depends to a large extent on the health and hygiene of the people who handle it. For this reason, you must enforce standards for personal hygiene. Make sure that each food handler has a current food handler's certificate before starting his duties. Also, make sure that anyone absent from food-handling duties (due to contagious illness) has a checkup before returning to these duties.

As food service sergeant, you must inspect all food handlers each day as they report. Don't let anyone with a cough, cold, sore throat, intestinal illness, cuts, sores, or skin infections handle food. Send these people to the medical unit that supports you for an exam. During your daily inspection, check to see that personnel have clean clothes, properly cut and covered hair, clean hands, and clean, short fingernails. Food handlers pick up germs from nose-picking, scratching, using the latrine, and smoking and in many other ways. They must wash their hands afterwards and at many other times during the day.



The last word is to always make sure that all your people are clean and healthy. If you are in doubt about anyone's health, don't let him handle food. Take steps to correct these problems. More details dealing with this subject are in AR 40-5.

### FOOD HANDLER'S INSPECTION CHECKLIST

	Yes	No	Corrective action taken
<b>Health</b>			
1. Cough, cold, or sore throat?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Intestinal illness?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Cuts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Sores?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Skin infection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Appearance</b>			
6. Clean clothes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Hair properly cut & covered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Clean hands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Clean, short fingernails?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### FOOD-BORNE ILLNESS

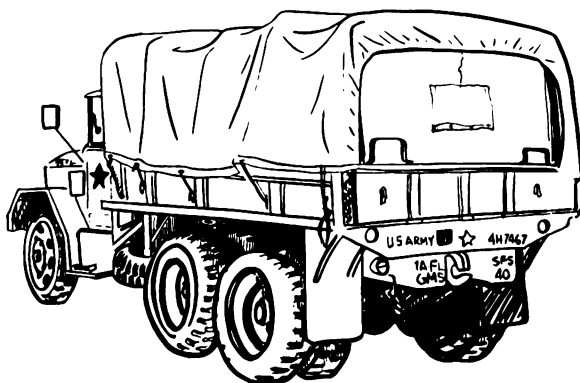
Food has to be kept germ-free; if it isn't, it may spoil. Spoiled food can cause serious food poisoning and can even kill. Sick or dirty food handlers and the wrong kind of storage and preparation all cause food to spoil. Rodents, insects, and impure water also cause food to spoil. Never use food from a can that is leaking or swollen. In fact, if you are in doubt about any of the food, don't use it. Check with the vet to find out if it's okay.





## HANDLING RATIONS

The trucks that carry rations and ice from the supply source to the field kitchen must be cleaned with soap and water. Don't let rations sit on the bed of the truck. They should be in the right container and should be placed on dunnage. The trucks must be covered on the top, sides, and back so dirt can't enter. Keep rations protected from dirt and weather during and after unloading.



## WASTE DISPOSAL

In the field kitchen, you will have to get rid of all types of liquid kitchen waste, garbage, and rubbish. Do this right away so that the health of your people is protected.

**Liquid kitchen waste.** Use a soakage pit or trench to dispose of liquid kitchen waste. Each soakage pit or trench has a grease trap which strains out solid matter, soap, and grease. The soil absorbs the liquid waste.

**Garbage.** Garbage is the solid or semisolid waste that is left after the preparation, cooking, and serving of food. You get rid of garbage by burying it or burning it.

*Burying.* When you will be at a site for less than 1 week, you should bury garbage in either pits or trenches. These pits or trenches must be at least 30 meters (100 feet) from the dining area, and at least 30 meters away from any water source used for cooking or drinking.

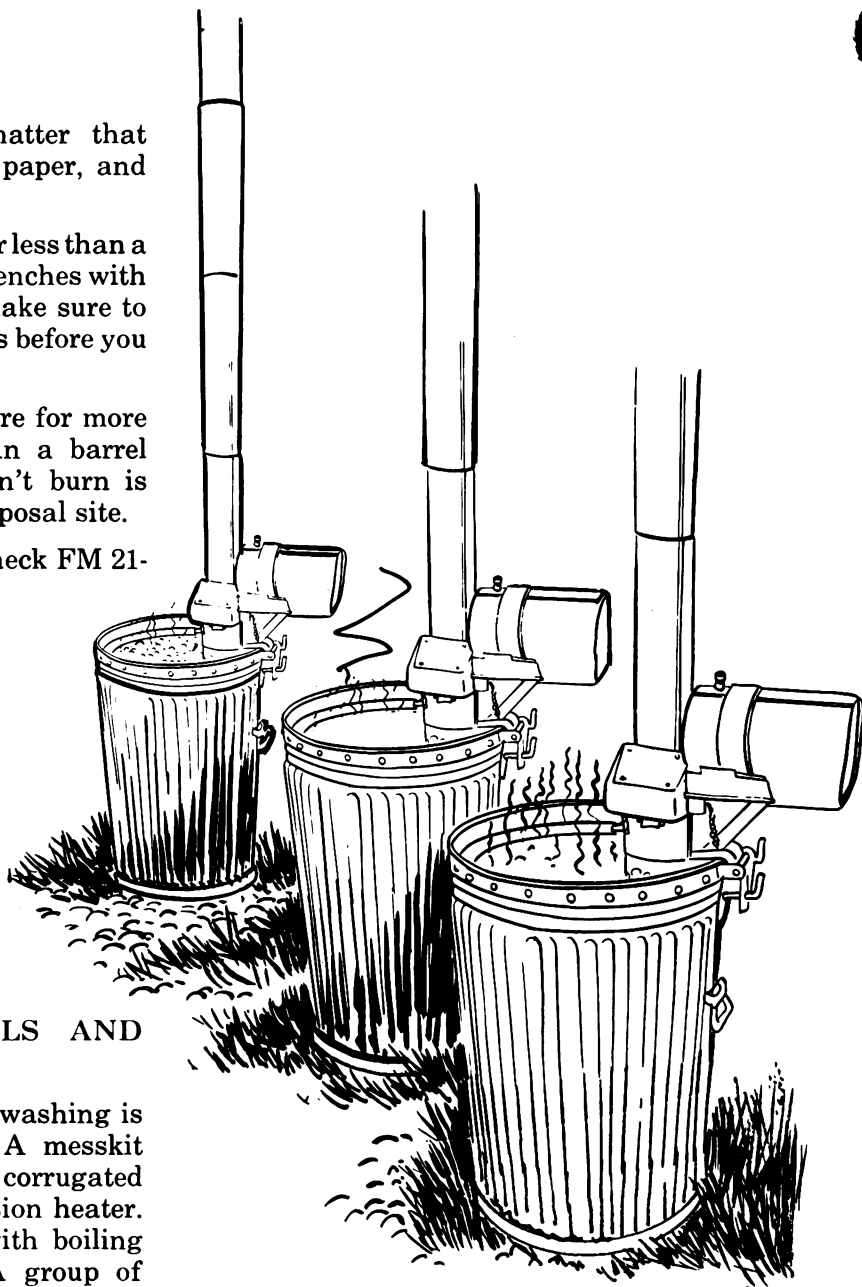
- Use a *garbage pit* if your stay will be for 1 day or less.
- Use a *garbage trench* if you are going to be there 2 days to a week.

*Burning.* If you are going to be at a site for more than 1 week, the garbage is often burned in an open incinerator. Use an inclined incinerator or a cross-trench incinerator, whichever fits your situation. Incinerators won't burn wet garbage, so you'll have to separate the liquid from the solid part. Do this by straining the garbage with a coarse strainer (such as an old bucket, can, or 55-gallon drum with holes in the bottom.) Pour the liquid through a grease trap into a soakage pit or trench. Burn the solids that are left. Field incinerators need to be at least 45 meters (50 yards) from the kitchen and dining areas so the odor won't be bothersome.

**Rubbish.** Rubbish is solid matter that generally includes cans, boxes, paper, and other nonfood wastes.

- If you are to be in an area for less than a week, bury rubbish in pits or trenches with the garbage. If you do this, make sure to flatten cans and break up boxes before you dump them.
- If you are going to be there for more than 1 week, burn rubbish in a barrel incinerator. Rubbish that won't burn is buried or hauled away to a disposal site.

If you need more information, check FM 21-10.



## WASHING FOOD UTENSILS AND MESSKITS

In the field kitchen, all dishwashing is done with a messkit laundry. A messkit laundry is a row of three 32-gallon corrugated steel cans, each with an immersion heater. An extra 32-gallon can filled with boiling water may be used as a predip. A group of three cans can handle messkits and cooking utensils for about 80 people.

**Before you do it.** You and your staff need to know about what's in MIL-HDBK-740 (Military Standardization Handbook—Dishwashing Operations). Use this book as a guide on how to teach your people the right way to wash utensils and messkits. Each basic step of how to wash utensils and messkits needs to be understood by the people who will do it.

The KP's at the field kitchen will have to wash the pots, pans, and other utensils. Each person washes his own messkit. Proper cleaning is needed to keep pots, pans, utensils, and messkits germ-free.

**What you do.** In the field, the right way to wash food utensils and messkits is to scrape, wash, prerinse, rinse, and air-dry them, in that order.

- You *scrape* to get rid of excess food so the wash water won't get too dirty.
- You *wash* utensils in hot hand dishwashing compound solution to get them clean.
- You *prerinse* to get rid of the suds.
- You *rinse* to sterilize the utensils and make them germ-free.
- You *air-dry* so that you won't get germs on the utensils from dish towels or napkins.

**How you do it.** Set up your messkit laundry 15 meters (50 feet) from the kitchen. Use hand dishwashing compound (NSN 7930-00-281-4731) for field dishwashing.

**NEVER USE MACHINE DISHWASHING COMPOUNDS FOR FIELD DISHWASHING.**

**When you have boiling water:**

- Scrape food scraps from the utensils or messkit into the garbage can, pit, or trench. Prewash items if you can.
- Wash utensils or messkit in the first can (hot hand dishwashing compound solution). Use a long-handled brush.
- Prerinse the utensils or messkit in the second can (boiling water) and dip them a few times to get the suds off. Shake off excess water.
- Rinse again in the third can (boiling water) for at least 30 seconds; this will sanitize the utensils or messkit.
- Shake off excess water and let the items air-dry.
  - Let pots and pans and other utensils air-dry (upside down) in a place where they won't get dirty.
  - Let a messkit air-dry and as soon as it is dry, close it up to keep dirt out.





**When you don't have boiling water:**

- Scrape food scraps into a garbage can, pit, or trench; prewash items if you can.
- Wash items in hand dishwashing compound solution.
- Rinse items in clean water.
- Disinfect items by swishing them in a chlorine-iodine water solution for at least 30 seconds.

*Make a chlorine-iodine water solution by mixing the contents of one pouch of the disinfectant (NSN 6840-00-810-6396) in 95 liters (25 gallons) of water.*

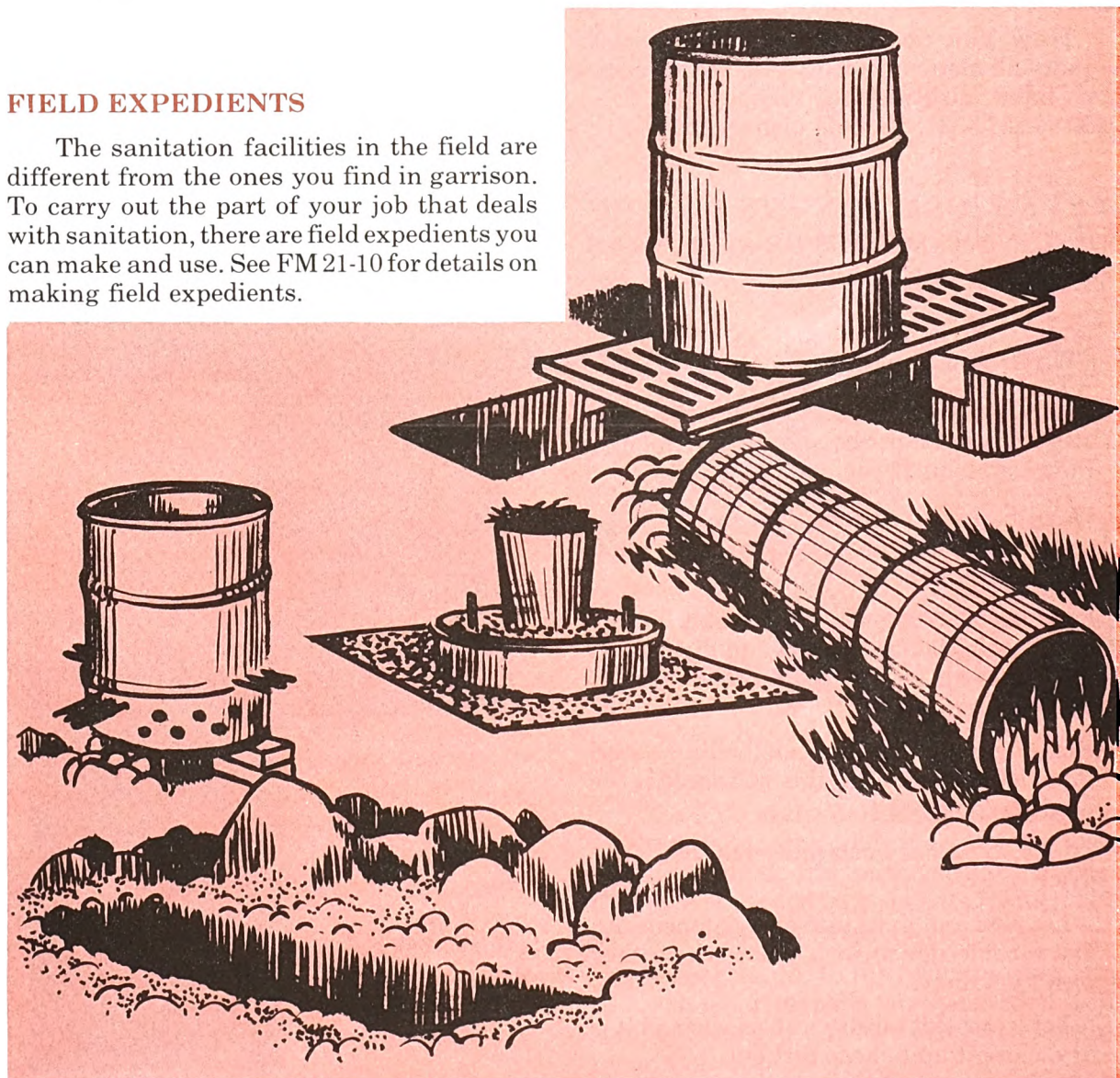
*Make a fresh solution for every 100 people.*

*Do not reuse the solution or carry it over to the next meal.*

- Let the items air-dry in a place where they won't get dirty. Close up the dry messkit.

**FIELD EXPEDIENTS**

The sanitation facilities in the field are different from the ones you find in garrison. To carry out the part of your job that deals with sanitation, there are field expedients you can make and use. See FM 21-10 for details on making field expedients.





# NOTES

## ARMY REGULATION

No. 420-90

\*AR 420 90

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 19 November 1976FACILITIES ENGINEERING  
FIRE PREVENTION AND PROTECTION

Effective 15 December 1976

This is a complete revision of AR 420-90 and incorporates provisions of AR 385-12. Local limited supplementation of this regulation is permitted, but is not required. If supplements are issued, Army Staff agencies and major Army commands will furnish one copy of each to HQDA (DAEN-FEF) WASH DC 20314; other commands will furnish one copy of each to the next higher headquarters.

## CHAPTER 1. GENERAL

- Purpose.....
- Applicability.....
- Installation program.....
- Projects.....
- Technical standards and criteria.....
- Radioactive materials and use.....
- Fire loss reporting requirements.....
- 2. FIRE PREVENTION AND PROTECTION.....
- Program elements.....
- Major Army Command (M).....
- Command echelons.....
- Installation commanders.....
- Facilities engineers.....
- Area fire marshals.....
- Fire prevention week.....
- 3. INSTALLED FIRE PROTECTION.....
- General.....
- Automatic sprinkler system.....
- Automatic fire alarm system.....
- Manual fire alarm system.....
- Exterior fire reporting.....
- Fire extinguishers.....
- 4. DATA PROCESSING.....
- Data processing system.....
- Installed and stored.....
- 5. FIRE DEPARTMENT.....
- Criteria.....
- Fire department.....
- Fire department.....
- Auxiliary fire.....
- Motorized fire.....
- Firefighting.....
- Radio equipment.....
- 6. OUTSIDE.....
- Municipal.....
- Reciprocal.....
- Explanatory.....
- Waiver.....
- Emergency.....
- Special.....

\* This regulation

TAGO 57A-Now

## CHANGE

No. 5

Paragraph

1-1

1-2

1-3

AR 385-10  
\*C 5HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 20 August 1976

## ARMY SAFETY PROGRAM

Effective in accordance with DA message superseded below

1. New or changed material is indicated by a star.
2. Remove old pages and insert revised pages as indicated below.

7-1 through 7-3

Insert pages

7-1 through 7-3

3. File this change sheet in front of the publication for reference purposes.

The proponent agency of this regulation is the Office of The Inspector General and Auditor General. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to HQDA (DAIG-SD) WASH DC 20310.

By Order of the Secretary of the Army:

Official:

PAUL T. SMITH  
Major General, United States Army  
The Adjutant GeneralFRED C. WEYAND  
General, United States Army  
Chief of Staff

## DISTRIBUTION:

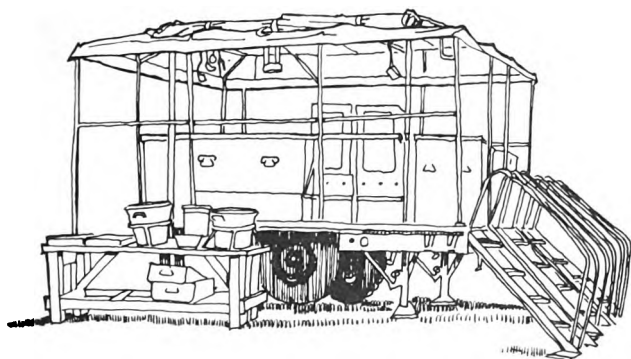
Active Army, ARNG, USAR: To be distributed in accordance with DA Form 12-9A requirements for AR, Safety-A.

\*This change supersedes DA message DAIG-SD 170017Z Apr 76, (U) subject: AR 380-10, Army Safety Program, Significant Information Pertaining to the Pending Revision.

TAGO 417A--August 213 023--76

## CHAPTER 12

# SAFETY AND FIRE PREVENTION



**1 Handling rations and supplies.** Rations come in containers of many sizes, types, and weights. Teach your people the right way to lift heavy things. Here are some commonsense directions you should give your cooks:

- Lift heavy things the right way—



### SAFETY IN THE FIELD KITCHEN

Safety in the field kitchen may be called commonsense in action. If your staff members use commonsense when they do their jobs, they can prevent many accidents. They should have safety guidelines they can follow. Since safety is an ongoing concern, provide these through daily meetings, SOP's, or any other convenient way. These guidelines should serve to put a stop to unsafe acts, unsafe working conditions, and careless use of equipment. Also, teach your people to recognize and fix or replace unsafe equipment. All the details are in AR 385-10, but here are some key points to keep in mind.

There are five phases of field kitchen operations during which accidents are most likely to take place. However, there are steps you and your staff can take to lessen the chances of these accidents happening.

- (1) Get a firm grip on the container, *not* on the metal bands or strapping.
- (2) Get a firm footing with body weight evenly distributed.
- (3) Bend knees, keep back straight, and make sure that the load is close to the body.
- (4) Use thigh and shoulder muscles to lift the load.
- (5) Walk your normal way and make sure you can see where you are going.
- (6) Ease the load to its resting place.

- Stack rations the right way. Put heavy boxes on the bottom.

- Store bug spray, cleaning supplies, and other things that can poison you in a separate place.

- Make sure that things you can trip on are out of the way.

- Wear work gloves when you open wooden cases. Take out all nails that stick out and get rid of the empty cases.

**2 Preparing food.** Cooks have to use many kinds of knives. Make sure they are careful when they use knives and when they work in the food preparation area. Here are some things you should tell your cooks:

*About knives—*

- Keep knives sharp.
- Use the right knife for the job.
- Cut going *away* from you.
- Keep knives in racks when they aren't in use or being cleaned.



- **DO NOT** “palm” vegetables and fruits when you cut through them.
- **DO NOT** leave a knife or other sharp-edged tool lying on a work table; it might get covered with vegetables or other foods and be a hazard to a person cleaning the table.

- **DO NOT** try to catch a falling knife. *Always* step back and let it fall.

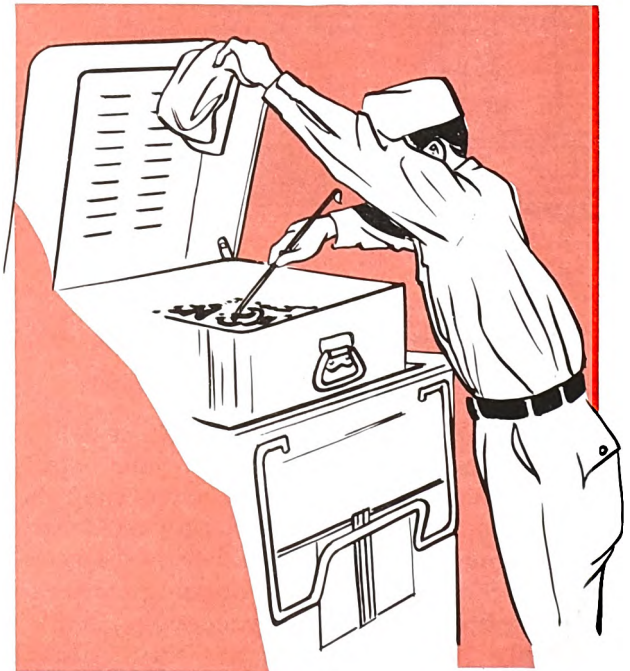
- **DO NOT** leave knives lying around to be washed later. When you use them, clean them and put them back in the rack.

- **DO NOT** carry knives when hands are full.

- **DO NOT** use knives to open cans.

*About the food preparation area—*

- So you won't slip or fall, always keep floors free of spilled or dropped food.
- Keep floors as clean and dry as possible.



**3 Cooking and baking.** Burns and falls are two kinds of accidents that happen often. To guard against them, there are safety steps you and your staff can take.

*Burns*

- Turn handles of pots and pans so they aren't in the way.
- Use hot pads when you handle something hot.



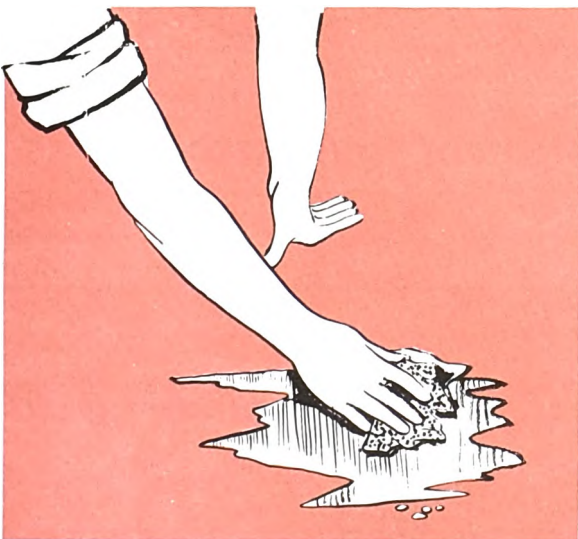
- Don't crowd the cooking area where the field range is.
- Know where you are going to put a hot pot before you take it off the field range.
- Never stand in front of the range cabinet door when you open it.
- Close the range cabinet door the right way. Don't slam it.
- Keep footwear in good condition.
- Warn others when you are passing through with something hot.

### *Falls*

- Clean up spilled food right away so no one will slip and fall on it.
- Watch your step at all times.

**4 Serving.** Burns, collisions, and falls are common types of accidents that take place where food is being served. A food server who is running or not being alert may bump into someone and spill hot food on himself and others. Sometimes little spills aren't seen until someone slips and falls. To avoid falls, here are some things you and your staff can do.

- Don't run or hurry when carrying hot food.
- Clean up all spills right away.



**5 Cleaning up and washing utensils.** The main injuries that take place during cleanup and dishwashing are cuts and burns. Tell your field kitchen people to practice these safety steps:

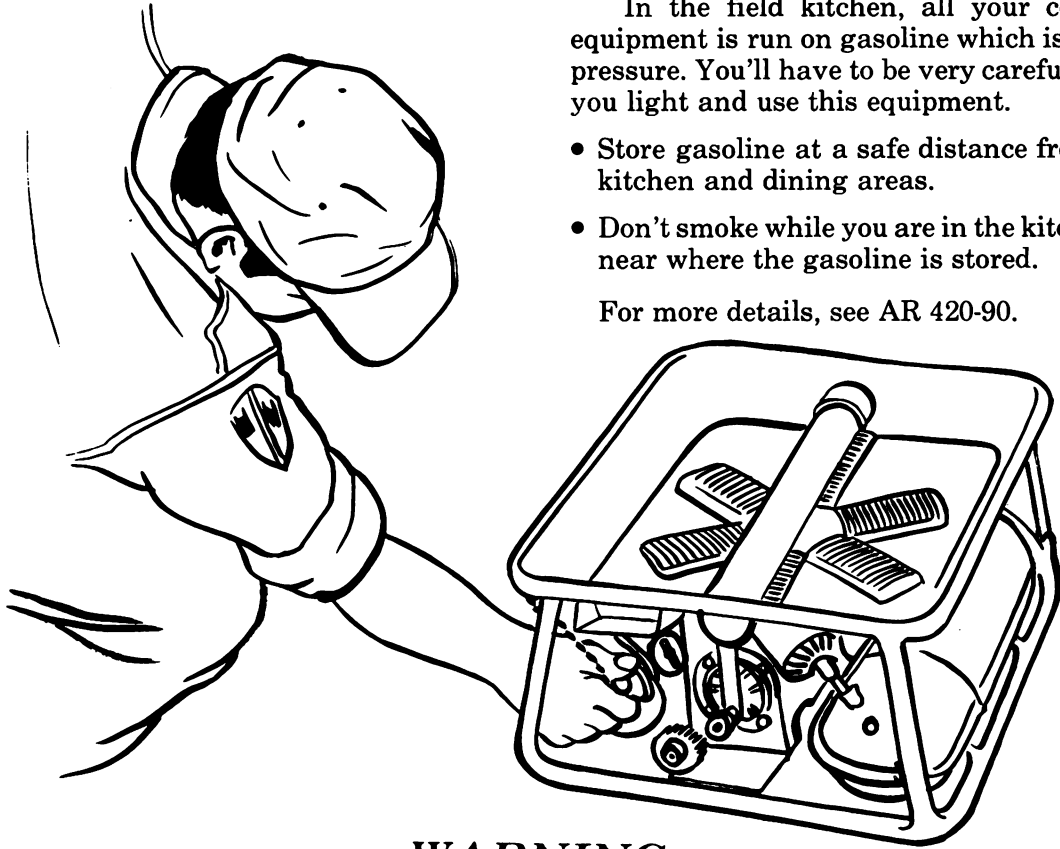
- Be careful not to cut yourself on can lids when you throw cans away.
- Wash utensils using a long-handled brush.
- Don't dip your hand into the rinse water.

**DON'T GET BURNED**

In the field kitchen, all your cooking equipment is run on gasoline which is under pressure. You'll have to be very careful when you light and use this equipment.

- Store gasoline at a safe distance from the kitchen and dining areas.
- Don't smoke while you are in the kitchen or near where the gasoline is stored.

For more details, see AR 420-90.

**WARNING**

*Gasoline is used in the operation of field kitchen equipment.*

**DEATH**

*or severe burns may result if you don't observe all safety precautions.*

# NOTES







## CHAPTER 13

# SPECIAL CONSIDERATIONS

### HOW TO DESTROY ARMY MATERIEL TO PREVENT ENEMY USE

There may be circumstances which will require you to destroy your materiel in order to prevent enemy use. In such a case, there are four ways to do it:

**By hand.** Use an axe, pick, mattock, sledge, or any other heavy object. Smash as many vital parts as you can. Slash tires, wiring, cords, hoses, fuel tanks, and insulated panels. Destroy controls, instruments, lights, etc. If a stream is nearby, throw loose parts in the water. Bury or scatter all other parts.

**With explosives.** Blow it up with explosives you have on hand, such as hand grenades or light antitank weapons (LAW's).

**With weapons fire.** Fire on the equipment with the heaviest suitable weapons available.

**By fire.** Place materiel that will burn by itself with that which won't so you burn as much of the equipment as you can. Fires should be lit after you have smashed the equipment by hand.

Destruction is done as a last resort, and then only after approval or on order from higher headquarters. The bottom line is that given the go-ahead, destroy the equipment the best way you can under the circumstances.

### WHAT TO DO UNDER NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) WARFARE CONDITIONS

You must be able to carry out your mission, even if you have to operate under NBC warfare conditions. Your main concerns should be with protecting yourself, your people, and your equipment and with decontaminating afterwards. Obviously, you have to be very careful about food and water supplies. Food in sealed containers can probably be used after the containers are washed with hot, soapy water. Anything open would probably have been contaminated and should not be used. Check with the medical corps. They will tell you if the food is safe to eat. For more details, see FM 21-40, FM 21-41, and TM 3-220.

# NOTES

## REFERENCES

You will want to do your job the best you can. And for any job, good references are an important key to doing it right. Here's the list of those references that are the "tools of your trade." Get them and keep them where you can lay your hands on them when you need to.

### ARMY REGULATIONS

30-1	The Army Food Service Program
30-16	Food Service Data Feedback Program
30-18	Army Troop Issue Subsistence Activity Operating Procedures
40-5	Health and Environment
40-657	Veterinary Food Inspection
310-34	Equipment Authorization Policies and Criteria, and Common Tables of Allowances
385-10	Army Safety Program
385-40	Accident Reporting and Records
420-22	Preventive Maintenance and Self-Help Programs
420-55	Food Service and Related Equipment
420-90	Fire Prevention and Protection
570-2	Organization and Equipment Authorization Tables — Personnel
702-7	Reporting of Quality Deficiency Data

### NATIONAL GUARD REGULATION

30-1	Army National Guard Food Service Program
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### DEPARTMENT OF THE ARMY PAMPHLETS

108-1	Index of Army Motion Pictures and Related Audio Visual Aides
570-551	Staffing Guide for US Army Garrisons

## FIELD MANUALS

5-20	Camouflage
10-22	Baking Operations
10-24	Ration Breakdown Point Operations
10-25	Preparation and Serving of Food in the Garrison Dining Facility
10-26	The Army Food Adviser
10-60	Subsistence Supply and Management in Theaters of Operations
10-94B	Food Service Specialist, Soldier's Manual
21-6	How to Prepare and Conduct Military Training
21-10	Field Hygiene and Sanitation
21-40	NBC (Nuclear, Biological and Chemical) Defense
21-41	Individual NBC Defense

## SUPPLY BULLETINS

10-260	Master Menu
10-260-1	Recapitulation of Master Menu Issues
10-263	14-Day US Army Reserve Component Menu
10-495	Standard B Ration for the Armed Forces

## COMMON TABLES OF ALLOWANCES

50-911	Equipment for Army Food Service Facilities (Appropriated Fund)
50-915	Allowances for Miscellaneous Field and Garrison Equipment
50-970	Expendable Items (Except: Medical, Class V, Repair Parts and Heraldic Items)



## TRAINING CIRCULAR

- 10-1                                      Operation of the Gasoline Lantern
- 21-5-7                                   Training Management in Battalions

## TECHNICAL MANUALS

- 3-220                                    Chemical, Biological, and Radiological (CBR) Decontamination
- 5-637                                    Inspection and Preventive Maintenance Services for Kitchen Equipment
- 5-700                                    Field Water Supply
- 54540-202-12                        Operator and Organizational Maintenance Manual Including Repair Parts and Special Tools List: Heater, Immersion, Liquid Fuel Fired, 35,000 B.T.U. Output for Corrugated Cans (Military Model M67) NSN 4540-00-469-6593
- 8-501                                    Nutrition
- 8-504                                    Food Production, Service, and Subsistence Management
- 8-525                                    Instructor's Guide to be Used in Training Food Service Personnel—Sanitary Food Service
- 10-412                                   Armed Forces Recipe Service
- 10-415                                   Dining Facility Equipment: Operation and Operator Maintenance
- 10-4500-200-13                    Operator's, Organizational, and Direct Support Maintenance Manual, Including Repair Parts and Special Tools List: Heaters, Space-Radiant Type, Portable (Type I, Model M1941, Solid Fuel) NSN 4520-00-257-4877; (Type II, Model M1941, Liquid Fuel) NSN 4520-00-927-4214; (Yukon Model M1950, Solid or Liquid Fuel) NSN 4520-00-287-3353; Heaters, Immersion: Liquid Fuel Fired for Corrugated Cans (All Makes and Models) NSN 4540-00-266-6835; (Preway Model 447-2EX) NSN 4540-00-453-9146; for Tank Trailer (All Makes and Models) NSN 4540-00-266-6834
- 10-7360-204-13                    Operator's, Organizational, and Direct Support Maintenance Manual Including Repair Parts and Special Tools List: Range Outfit, Field, Gasoline, Model M59, NSN 7360-00-082-2153; Burner Unit, Gasoline, Model M2, NSN 7310-00-842-9247; Accessory Outfit, Gasoline, Field Range, NSN 7360-00-082-6592; Accessory Outfit, Gasoline, Field Range, With Baking Rack, NSN 7360-00-187-4757

10-7360-206-13

Operator, Organizational, and Direct Support  
Maintenance Manual for Mobile Field Kitchen, MKT-75,  
NSN 7360-00-138-7782

10-8340-205-13

Operator, Organizational, and Direct Support  
Maintenance Manual: Tent, Kitchen, Flyproof, M1948,  
NSN 8340-00-262-3687

#### **TECHNICAL BULLETINS**

MED 175

The Etiology, Prevention, Diagnosis, and Treatment of  
Adverse Effects of Heat

43-0002-22

Maintenance Expenditure Limits for ESC Group 73, FSC  
Classes 7310, 7320, 7330, and 7360

43-0002-23

Maintenance Expenditure Limits for ESC Group 45, FSC  
Classes 4510, 4520, and 4540

#### **MILITARY STANDARDIZATION HANDBOOKS**

740

Dishwashing Operations

1492 (GL)

Dishwashing Accessory Equipment and Supplies

**FM 10-23**

**29 SEPTEMBER 1978**

By Order of the Secretary of the Army:

**BERNARD W. ROGERS**  
*General, United States Army*  
*Chief of Staff*

Official:

**J. C. PENNINGTON**  
*Brigadier General, United States Army*  
*The Adjutant General*

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*Active Army, USAR and ARNG:* To be distributed in accordance with DA Form 12-11A, Requirements for Supply of Subsistence in a Theater of Operations (Qty rqr block no. 97); and DA Form 12-34B, Requirements for Dining Facilities (Qty rqr block no. 117).

Additional copies can be requisitioned (DA Form 17) from the US Army Adjutant General Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220.







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